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POST-OPERATIVE THROMBOSIS AND PULMONARY EMBOLISM

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The occurrence of pulmonary embolism in post-operative patients was formerly accepted as an act of Providence that was not amenable to treatment, prevention or cure. Aroused by the great increase of these dreaded and disastrous complications reported during the past ten or twelve years, clinicians have been employing a number of measures to prevent their occurrence, and have called upon research workers to ascertain their causes.

Statistics from surgical clinics of this and European countries, show a death rate since 1916 of about 0.25 percent for all operations due to pulmonary emboli. This is about double the rate shown for a like number of years preceding this date.

Some explanations that have been offered to account for this increase are as follows: It is an established fact that the percentage of pulmonary embolism is much higher in patients of advanced years, and a greater number of operations are being done on older people. This is especially true of the operations of prostatectomy, hysterectomy, cholecystectomy, and extensive dissections for removal of malignant growths. All of these being operations showing a high rate of occurrence of this condition. Another reason is the prevalence since 1918 of influenza. This disease affects its victims in some way that makes the formation of thrombi more frequent. Another reason advanced is that the hardships endured during the World War by both soldiers and civilians have resulted in a larger proportion of the population being afflicted with varicosities, a condition that leads all others in thrombus formations. Still another explanation, and this is regarded by many as the most important, is that these conditions are being recognized and correctly diagnosed. Undoubtedly some of the cases formerly diagnosed as anesthesia pneumonia were multiple small pulmonary emboli and infarction, caused by the fragmentation of a beginning thrombus and many cases of sudden death attributed to heart failure were caused by massive emboli in the pulmonary arteries. On the other hand, it is probably true that since pulmonary embolism has become a popular diagnosis, many conditions diagnosed as such have been due to other causes.

Research workers have demonstrated that the blood in the blood vessels is kept in its normal fluid conditions by a balance between the thrombin and thrombin forming elements, and the anti-thrombin elements. Thrombin and the thrombin forming substances are pretty definitely known but anti-thrombin is as yet a theoretical substance that experiments indicate comes principally from the intima of the blood vessels and from hepatic tissue. It is only when the normal balance is disturbed by an increase of the thrombin substances or a decrease in anti-thrombin that it is possible for a thrombus to form. If a normal vein is allowed to fill with blood, and then ligated carefully so as to not injure the intima, it will remain for several days with no clotting of the stagnant blood in the section between the ligatures. This demonstrates that venous stasis or a slowing of the circulation will not produce a thrombus in a normal blood vessel. The changes in the blood vessels making it possible for a thrombus to form are apparently confined to the intima. Some of them are known and others are as yet unsolved. Mechanical injuries by pulling on blood vessels, crushing by instruments, pressure by rigid drains, bring about these changes, as do localized infections in the surrounding tissues. The intima of a varicose vein is usually normal but the incidence of thrombosis is much higher than in other veins. Just what the changes are that occur in the intima of a varicose vein, in the veins of persons of advanced years, and those having or who have recently had typhoid or influenza, are not known, but it has been observed that they play an important part in thrombosis.

When these changes are present in the

intima together with changes in the blood increasing its coagulability, then stasis or slowing of the blood may contribute to thrombus formation. Slowing of the circulation is a common occurrence in post-operative patients. This is sometimes aggravated by position of the body or limbs interfering with the return flow of blood.

Some of the post-operative conditions that disturb the normal balance of the thrombin elements and anti-thrombin are as follows: Loss of body fluids and starvation causes a great increase in the tendency to clot formation. Ether anesthesia seems to destroy the anti-thrombin content of the blood and this change persists for from 6 to 12 days. Suprarenalin, whether injected into the body with local anesthetics or produced and thrown into the circulation to overcome shock, increases the clotting tendency of the blood by stimulating the production of the thrombin elements.

Some of the causes for a thrombus becoming dislodged are understood. Marantic thrombi are very loosely attached to the vessel wall and increases of the pressure of the blood behind them, or movements of the vessel wall by muscular action or external pressure, is enough to start them moving. Thrombosis in an infected vein is a protective process but sometimes the infection proceeds to the point where the attachments of the thrombus are dissovled and it is set free, or it is broken up and the fragments carried away. A thrombus in a branch vein may continue to form until it projects into the larger vein, where the blood current will break it off and carry it away. The thrombus may be invaded by an unusually large number of leucocytes causing it to disintegrate and the fragments be carried away. A thrombus may become dislodged by active contractions of the surrounding muscles or by ill advised massage.

The usual symptoms of thrombosis are too well known to go into here. One symptom that has been emphasized of late is a slight rise of temperature in the afternoon in clean cases for a longer time than there is any ascertainable cause.

The symptoms of pulmonary embolism depends on the size of the embolus and the artery that is plugged. When both pulmonary arteries are occluded, death is almost instantaneous. If one of them is completely occluded, there is the condition of agonizing pain, intense dyspnea and orthopnea, with death usually in a few minutes. From these fatal cases, the symptoms range through all gradations to the embolism of the very small arteries when the only symptoms are pleurisy pains, when the affected area reaches the pleura, or a blood stained sputum where only internal areas of the lung are involved.

The end results in the affected areas of the lung depend on the size of the embolus and whether or not it carries infective bacteria. Sterile emboli in the larger arteries usually become canalized and the function of the involved portion of the lung is restored wholly or in part. When the small branches of the arteries are occluded by sterile emboli, they usually remain closed, due to organization of the clot, and the resulting infarct undergoes a process of fibrosis and contraction. Septic thrombi produce pneumonic processes or abscesses in the lung, depending on the bacteria included and the resistance of the patient.

From what has been said, it is plain that the unknown factors of thrombus formation and their dislodgment to form emboli are problems for the physiologist to solve. Then it will be up to clinicians to apply the findings in the treatment of their patients.

With our present knowledge, there are several things we can do to lessen the occurrence of this dreaded complication. By careful and gentle handling of all tissues during operations and using care in placing rigid drains, we can avoid mechanical injury to the blood vessels. Getting the patient in the best condition possible under existing conditions before operation. This includes cleaning up infective foci, building up resistance by proper nourishment, or blood transfusion if indicated, and supplying plenty of fluid to the tissues. After operation we can prevent dehydration by proctoclysis, hypo-dermoclysis, or by intravenous administrations until the patient can take sufficient fluid by mouth. In persistent vomiting, starvation may be prevented by giving glucose, with or without insulin, intravenously or by proctoclysis. It is advisable to avoid as far as practicable prolonged ether anesthesia, and to limit the amount of suprarenalin injected with local anesthetics. Prevent hemorrage as much as possible by careful hemostasis, using all means at our command to prevent shock or in its treatment when it has developed. Elevating the lower limbs or the foot of the bed when the return circulation is noticeably slowed. Proper supportive bandaging of the legs when vari-

cose veins are present. Frequent change of position and early movements of the limbs. Avoid pressure where it will interfere with circulation. Heart stimulants when circulation is weak. The administration of citrates probably reduces the tendency to thrombus formation, and it is claimed that the intravenous administration of 15 c. c. of a 10 percent solution of sodium citrate will arrest the process if a thrombus is forming.

To prevent embolism when thrombi are known to be present, avoid active movements and manipulations and massage of the affected parts until the thrombi have time to become organized and firmly adherent.

We have no effective treatment for massive pulmonary embolism.

Opening the chest, opening the pulmonary artery, removal of the clot and repair of the artery has been suggested, but is not practical. Treatment of embolism of the branches of pulmonary arteries not large enough to cause immediate death, consists of giving morphine to relieve pain and quiet the patient, and later treat symptoms as they arise.

If we keep constantly in mind the possibility of the occurrence of these complications and use the indicated measures when they threaten or occur, the death rate from them can be lowered from what it is at present.

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BRONCHOSCOPIC TREATMENT OF ABSCESS OF THE LUNG WITH CASE REPORT

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The object of this brief paper is to emphasize the value of bronchoscopic drainage and treatment in abscess of the lung. McCrae states in a paper, one of a symposium on Suppuration of the Lung, that "The value of bronchoscopy in abscess of the lung gains recognition slowly," and "That when rupture has occurred into a bronchus, bronchoscopic drainage is without question the treatment to be tried first."

Bronchoscopy has been done chiefly for the removal of foreign bodies from the lungs, and its use in the diagnosis and treatment of lung conditions has been neglected. Chevalier Jackson states that in the Philadelphia Clinics, the bronchoscopies performed for disease outnumber the bronchoscopies for foreign bodies, tenfold.

Abscess of the lung following some operative procedure on the upper air passages are of especial interest to the otolaryngologist and especially so if a patient on whom he has done a tonsillectomy develops within a few days or weeks, a cough and temperature and begins expectorating foul smelling pus.

No doubt many of these abscesses which are due to aspiration of infected secretions at the time of operation are not associated by the physician with the operation because of a comparative long interval that sometimes elapses between the time of the operation and the dvelopment of symptoms.

It is this type of abscess due to inhalation that can best be treated by bronchoscopy as they are always in relation to a fair size bronchial branch.

By bronchoscopic aspiration, purulent secretions too thick to drain out by the postural method, can be removed by suction and medication then locally applied. It is apparently the removal of the secretion rather than the medication that does the most good. These treatments are usually given twice a week for as long a time as necessary to clear up the infection or until some other method of procedure is deemed advisable. Monochloro-phenol is the medicine now being used in the Jackson Clinics in these cases.

Mrs. B., age 35, came to the Clinic, October 27, 1928 because of temperature, cough, expectoration of foul smelling pus, loss of weight and strength.

She states that on July 12, 1928, she had a tonsillectomy done under general anesthesia, slight secondary hemorrhage on the fourth day; on the eigth day she developed temperature and cough and she has been coughing since that time. At times she has a spasm of coughing and expectorates a large amount of foul smelling blood streaked material, after which she feels better.

Family history is negative.

Personal history is negative in regard to the present condition except for abscess of tonsil in February and June, 1928.

Physical examination: Patient is a rather thin, brunette woman. Eyes—pupils equal and react to light and accomodation. Nose—negative; mouth—teeth and gums in good condition; throat—mucous mem-

brane injected. There is considerable tonsil tissue remaining in the right fossa, the left posterior pillar shows a small perforation. Chest—inspection shows diminished expansion of the right side, relative dullness in the right lung with most pronounced dullness detected over area of the third rib and in this area, definite moist rales could be heard. Disseminated rales could be heard over the entire upper lobe.

The clinical diagnosis was made on the history, character of cough, profuse expectoration and fetid odor.

Laboratory reports: *Urine*—acid reaction, albumen, sugar and acetone negative, many bacteria, 4 to 5 leucocytes per field. *White blood count*—20,200, polys 89 percent, S. L. 11 percent, L. L. 1 percent. No tubercle bacilli found in sputum examination.

X-ray shows a dense shadow area in region of upper part of lower lobe or middle lobe on right side about half way between hilus and periphery of lung, which would indicate abscess of lung at 3rd interspace posteriorly.

Lipiodol injection into the right lower bronchus through the bronchoscope. X-ray report—Lipiodol shows a distinct abscess cavity in region of right lower lobe.

Bronchoscopic drainage and the insillation of 10 c. c. of a 1 percent argyrol into abscess cavity was done at four days intervals for five treatments.

After the first treatment there was slight improvement in the cough and the sputum expectorated was not so foul smelling. After the third bronchoscopic treatment, the patient was coughing very little and expectorating only a small amount of pus, this mostly in the morning.

The patient rapidly gained in strength and weight and she was discharged to her home thirty days after entering hospital. She was still coughing very slightly and at times raising a small amount of secretions from the lungs.

In a letter from the patient about three weeks after leaving the hospital, she states that she is continuing to improve and is coughing very little.

In another letter from the patient, written seven weeks after leaving the hospital, she says she has gained eleven pounds and wants to return to work.

On February 7, 1928, patient reports at office for examination of the chest. She has gained greatly in strength and 16 pounds in weight since leaving the hospital November 25, 1928. She is now engaged in ordinary activities of life but has not resumed her work. She still tires easily on exertion. Examination of the chest by Dr. W. W. Rucks: Lungs resonant thruout on percussion, on auscultation, breath sounds are clear thruout with exception of a faint crackle heard at base of right lung posteriorly, on deep breathing.

The rapid improvement this patient made after instituting the bronchoscopic treatments and the comparatively short time that elapsed before she was free from all symptoms of the abscess, would indicate that this method of treatment is the one that should be tried first when the abscess is so located that it is accessible to the bronchoscope.

ENTEROSTOMY AND SODIUM CHLORIDE THERAPY IN PERITONITIS

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In the field of abdominal surgery, peritonitis is such a serious problem that any addition to our standard methods of treatment is always welcome if it offers any possibility of a decrease in mortality. There is no specific treatment and therefore the therapy must be largely symptomatic. To outline a treatment here for all types of peritonitis is obviously unreasonable when it is considered that peritoneal infections have such a wide variation in etiology, distribution in the abdomen and individual susceptibility. This discussion will be confined to a consideration of general peritonitis which so frequently follows operation, perforations of the intestinal tract and appendiceal infections.

A complete presentation of this subject would necessarily carry us far afield and involve especially a discussion of paralytic ileus and intestinal obstruction. The relationship of these two conditions to peritonitis is still incompletely understood and consequently the differential diagnosis is, in many cases, extremely difficult. I believe, however, that it is safe to say that abdominal distention associated with a known peritonitis should be considered at least a potential intestinal obstruction and treatment instituted for its relief as a part of peritonitis treatment.

It seems quite probable that intestinal stasis with its resulting toxaemia, plays an

important role in the symptoms and death resulting from a majority of general peritoneal infections. But, knowing the effect of bacterial infections elsewhere in the body, one is hardly justified in concluding that a toxaemia cannot develop from the infected peritoneum. In an interesting series of experiments, David and Sparks[1] have shown that colon bacilli will pass from the peritoneal cavity into the thoracic duct and directly into the blood vessels. A plastic peritoneal exudate retards this passage of colon bacilli but a transudate has no such effect. They have further shown that diphtheria toxin passes directly into the lymphatics and blood stream under like conditions. They are, therefore, of the opinion that the severe toxaemia associated with general peritonitis must be caused in some degree by absorption of bacterial toxins from the peritoneum.

Mr. Seton Pringle[2] of Dublin has remarked as follows: "I believe that death in acute septic peritonitis was not, in most cases due to absorption of the products of the suppurative inflammation of the peritoneum, but to intestinal toxaemia, secondary to paresis of the inflamed intestine." Sampson-Handley[3] has also expressed the belief that the fatal dose of poison is usually absorbed from the intestine above an obstruction and not from the peritoneal cavity. The latter author also believes that if peritonitis does not produce obstruction, an infection within the peritoneal cavity may become universal without being fatal.

Hertzler[4] states that "In no chapter in the study of the peritoneum is the state of our knowledge so unsatisfactory as that concerned with the cause of death in peritonitis." The essential factors to be considered in the cause of death resulting from peritonitis are chiefly as follows: Absorption of toxins from the infection direct, possible effect upon the nervous system, mechanical pressure associated with obstruction, absorption from an obstructed intestine and dehydration.

In considering the problem from the broad viewpoint, it would seem that both bacterial toxaemia from the peritoneal infection and intestinal obstruction play major roles in illness and death due to this disease. If this be true, any treatment that would tend to counteract the effect of these two conditions would be of great importance. With this in mind, I should like to discuss briefly the treatment from the standpoints of supply of water and sodium chloride and timely enterostomy to drain the bowel of its toxic content and restore peristalsis.

It has been definitely proven that dehydration and hypochloraemia are of great importance in the lethal outcome of intestinal obstruction. Gatch, Trusler and Ayers[5], and Wangensteen and Chunn[6] believe that death in simple high obstruction is definitely due to loss of water and chlorides and not to a toxaemia arising from the contents of the obstructed gut. Whether this be strictly true or not, if the symptoms arising from a spreading peritonitis are due in part to stasis within the bowel, it is then logical to treat the condition as intestinal obstruction should be treated, which should include large quantities of sodium chloride solution. As a basis for the belief that there is a definite similarity between general peritonitis and simple high intestinal obstruction, we have found that the changes in the blood chemistry are quite similar. In both diseases there is constantly an increase in the urea nitrogen and non-protein nitrogen and a fall in the chlorides[7]. These chemical changes have been noted in the blood of several patients with peritonitis resulting from appendicitis, perforation of gall bladder, perforation of duodenal ulcer and resection of the colon. They are a definite indication for the use of sodium chloride administered as sodium chloride solution[8]. We have shown by experiments upon dogs with general peritonitis, that those given sodium chloride solution survive almost three times as long as those used as controls.

Even in a brief consideration of peritonitis, the work of Costain[9] on thoracic duct drainage and the observation of Williams[10] and others on treatment with Bacillus Welchii antitoxin should be mentioned. Costain expressed the belief that thoracic duct drainage was beneficial in peritonitis, assuming that the toxic products of the disease were thus eliminated from the body. Steinberg[11] decided from experimental evidence that thoracic duct drainage has no value. Certainly it has not been widely adopted as a therapeutic measure in general peritonitis. B. W. Williams has treated several patients with peritonitis resulting from appendicitis with the antitoxin of the Welch bacillus (bacillus perfringens). He reports a reduction of mortality from 6.3 percent to 1.17 percent. The rationale of this treatment he based upon the finding of the bacillus Welchii in the vomitus and obstructed intestine in a high percentage of

cases and assuming that it produces a toxaemia from within the bowel. Bower and Clark[11] report beneficial results with the use of this antitoxin in peritonitis, noting especially that their patients showed less restlessness, needed less morphine and peristalsis was resumed more quickly. After the study of eleven cases of diffuse peritonitis, they conclude that the treatment "merits the favorable consideration of perfringens antitoxin as a therapeutic agent of probable value in acute intestinal obstruction and peritonitis associated with toxaemia." Morton and Stabins[12] have noted improvement in experimental animals by using this antitoxin and conclude that it has a specific action in the treatment of intestinal obstruction. Copher, Stone and Hildreth[13] rather guardedly conclude from their experimental work that the medical profession is warranted in making a further clinical trial of bacillus Welchii antitoxin as an adjuvant in the treatment of acute general peritonitis and acute intestinal obstruction. The opinion of McIver, White and Lawson[14] casts some doubt upon the value of this antitoxin in the treatment of the toxaemia of acute intestinal obstruction.

The real value of bowel drainage in peritonitis is somewhat difficult to determine from the literature. Reports of Pringle, Sampson-Handley and Hubener[15] are very encouraging and should receive careful consideration. In the type of lower abdominal peritonitis described as "ileus duplex" by Handley, drainage of the gut is undoubtedly a logical procedure. This author recommends jejunocolostomy between a loop of the jejunum and transverse colon in addition to a caecostomy. This is advocated to drain the upper small gut into the colon to avoid the ileal obstruction in the pelvis and to drain the colon at the caecum to the outside to avoid the obstruction that occurs in the sigmoid region. The chief objection to the operation would seem to be its magnitude.

Our personal experience with enterostomy as a treatment for peritonitis has been limited to six cases. Four of these patients had a diffuse peritonitis involving the entire peritoneal cavity and in two the infection was confined chiefly to the lower portion of the abdomen. All of the six patients had evidence of bowel obstruction with vomiting and loss of chlorides. In the two in which the infection appeared to involve the lower abdomen, the signs of obstruction were more definite. In these cases, visible peristalsis was at times evident.

The four patients having the extensive peritoneal involvement, all died within four days following the enterostomy. The two having lower abdominal involvement both recovered promptly and were relieved of their peritonitis and bowel obstruction without further operative interference.

We recognize the fact that four of these enterostomies were done as last resort procedures and can hardly be considered a fair estimate of the true value of bowel drainage in extensive peritonitis. Early drainage in these cases before peristalsis was abolished and before the infection had reached the upper portion of the abdomen, may have given a different result. The other two patients were ideal for enterostomy and resulted in cures as expected.

GENERAL SUMMARY OF TREATMENT

In the treatment of peritonitis, the more or less standard methods including operation, drainage, posture, gastric and duodenal lavage, and morphine, should not be neglected, but should constitute a part of the treatment, supplemented by the intelligent use of sodium chloride solution and enterostomy when indicated. The value of thoracic duct drainage and the Bacillus Welchii antitoxin are yet to be determined.

How much sodium chloride solution should be given and when should enterostomy be done are the two questions that naturally arise. The quantity of salt should logically be governed by the state of the chlorides in the blood. It is realized, of course, that facilities for chemical studies of the blood are not always available and a working rule is desired that may be applied in most cases. It has seemed logical, in the toxic cases of acute intestinal obstruction, to administer one gram of sodium chloride per kilo of body weight during the first twenty-four hours. In acute general peritonitis with toxaemia and vomiting, the same rule applies as in acute intestinal obstruction. Water should be given in sufficient quantity to relieve the dehydration. This may at times be difficult to estimate but certainly no less should be given than the average quantity taken daily under normal conditions. This quantity usually averages from two to three liters. A good minimum to set in the administration of sodium chloride is 3 liters in 24 hours. This is by no means sufficient in those patients who are vomiting

and quite toxic. Twice three liters could not be excessive in the early treatment of such cases. When it is considered that from 7 to 10 liters of liquid may be secreted into the upper intestinal tract in 24 hours under normal conditions as gastric juice, bile, pancreatic juice and succus entericus, it is easily understood that large quantities may be lost by vomiting when the small intestine is obstructed. There is much greater liklihood of giving too little than too much water. Distilled water should not be given alone either in the vein or subcutaneously. It has been proven experimentally that the administration of water alone is not sufficient to relieve the toxaemia and prevent protein destruction". The addition of sodium chloride does prevent the increase in urea nitrogen and non-protein nitrogen formation in the blood and aids in water balance and distribution. Sodium chloride may be given as a physiologic solution or in one or two percent concentration under the skin and up to five percent in the vein if given very slowly. Proctoclysis should be given but should not be depended upon alone to relieve the dehydration and hypochloraemia in the severe cases.

Glucose is of great value as a food and diuretic when given intravenously in either general peritonitis or acute intestinal obstruction. It may be safely given in 10 percent solution at a rate of 500 c.c. per hour. If given more rapidly, it is likely to pass through the kidneys and not be utilized by the body. The glucose may be given in combination with sodium chloride.

To be effective in diffuse peritonitis, enterostomy should be done early before peristalsis has been abolished. After the bowel is paralyzed, an enterostomy will drain only one segment. In certain types of rapidly spreading peritonitis with a liquid exudate, it is doubtful if any type of treatment is of much avail. In that type of peritoneal infection which involves chiefly the lower portion of the abdomen, associated with pain, vomiting and evident active peristalsis enterostomy is often ideal. As soon as the bowel is opened, drainage begins at once, resulting in relief of pain, cessation of vomiting and decrease in distention. In many of these cases, the obstructive symptoms are due to the paresis of the gut involved in the lower abdomen and as soon as the inflammation subsides or becomes localized, the function of the bowel is restored without further surgery. In this type of case, an exploration of the lower abdomen in the presence of infection and paralyzed bowel is a dangerous and useless procedure while jejunostomy is an ideal treatment.

TECHNIC OF ENTEROSTOMY

The site of election for opening the abdomen is usually through the upper left rectus muscle. The first portion of gut presenting, which is usually the jejunum, is selected for drainage. A small loop is gently lifted from the abdomen and two purse string sutures, one around the other, of No. 1 chromic catgut, are placed. Within the circle of those sutures, a trocar is thrust into the gut and the liquid contents drawn off. If the flow is quite free and difficulty is experienced in emptying the gut locally, the ordinary intestinal clamps may be used to isolate the bowel segment (Fig. 1). A number 20 catheter with an additional aperture made near the end is then inserted quickly to avoid leakage after withdrawal of the trocar. The inside purse string suture is drawn tightly about the catheter and the catheter fixed by passing the needle through its wall and tying. The gut wall is then invaginated and the second purse string tied. Following this, the tube is sutured within the folded wall of the gut after the method of Witzel with an additional stitch passing through the

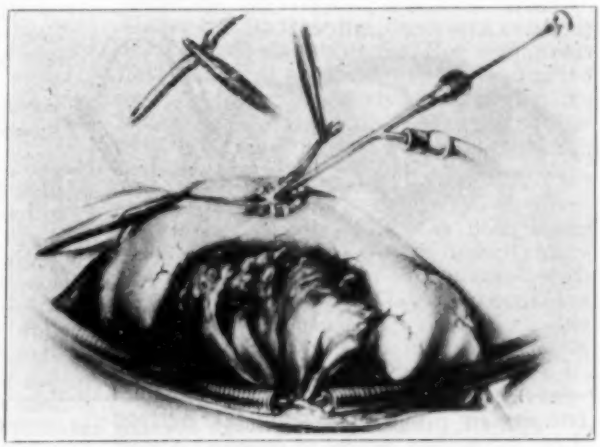

FIG. I. Technic of enterostomy showing method of aspirating loop of gut with trocar and placing of purse string sutures.

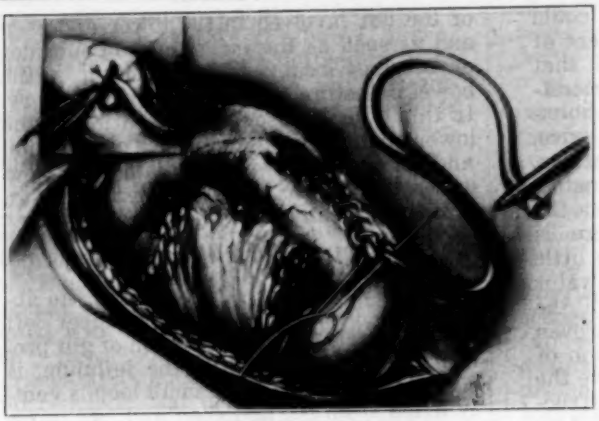

FIG. II. Suture of bowel wall over drainage catheter after the method of Witzel. To hold tube in place suture is passed through its wall.

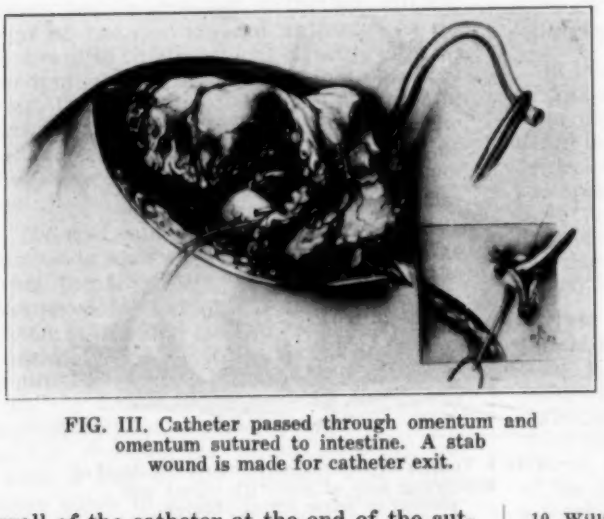

FIG. III. Catheter passed through omentum and omentum sutured to intestine. A stab wound is made for catheter exit.

wall of the catheter at the end of the suture line (Fig. 2.). The tube is then passed through or surrounded by omentum as advocated by C. H. Mayo[22]. The omentum is a protection against leakage and prevents adhesions between the bowel and abdominal wall after the drainage tube is removed (Fig. 3). The tube may be passed through a nearby stab wound or sutured in the operative wound as desired. In six to eight days the catheter will loosen and can easily be removed after which time it has usually served its purpose. With this technic, a fistula will rarely be encountered. Adequate drainage is obtained without the probability of a second operation to close the gut as is likely to occur if the bowel wall is sutured to the skin. The method is also much cleaner and wound infection is less likely to result.

RESULTS

1. The free use of sodium chloride solution to restore water and chemical balance has proven of much benefit both clinically and experimentally in the treatment of general peritonitis.

2. Enterostomy is a justifiable operation in general peritonitis and may be life saving if done early.

3. Enterostomy is definitely indicated in selected cases of lower abdominal peritonitis with obstructive symptoms. In such cases, exploratory operation to relieve the obstruction is extremely dangerous and should rarely be done.

4. Treatment of general peritonitis with enterostomy and administration of sodium chloride solution should not be done to the exclusion of other accepted methods of treatment such as abdominal drainage, application of moist heat, morphine enemas, posture and gastric and duodenal lavage.

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VISCEROPTOSIS AND ITS RELATION TO ABDOMINAL SURGERY

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This subject has been hashed and rehashed until we would think that its importance had been properly drilled into

our minds. However, it is so frequently overlooked and given such scanty mention in our text books that a brief reminder may not be out of place.

From 1768, when Haden published his first article until 1887, when F. Glenard's publication appeared, there was little interest displayed except in nephroptosis. Since that time there has been the usual swing from extreme to extreme. From the subject for spectactular futile operations, it has come to be almost totally disregarded.

There are two types: the "asthenia congentia" of Glenard, represented by the neurotic individual complaining of varied and indefinite symptoms, and the acquired type represented by the previously healthy individual complaining of definite abdominal discomfort. The first type we will disregard; the diagnosis is made by observing the long, thin abdomen, protruding in the lower segments, and the evident unstable mental make up. The other type should be of particular interest to the surgeon. It is our most frequent stumbling block.

In this day of simple comparatively safe abdominal procedures, we may be possibly condoned for removing the appendix when the only symptom is soreness in the right lower abdominal quadrant; or for removing the gall bladder when there is no shadow after the dye and when there are dull pains in the upper right quadrant, "bloating" after meals, and tenderness over the gall bladder area. The patient recovers and leaves the institution, as far as we know he is cured. Frequently he is not but goes on his way disgusted with surgery and, as he believes, he has been under the best of care, he either joins one of the cults or goes from physician to physician. His symptoms persist after removal of the supposed pathology and may simulate any type of abdominal lesion, but, as a rule, it will be brought out on careful questioning that the pain is never present or subsides soon after assuming the recumbent position. In my opinion, this is the only differential point between true pathology and ptosis of a viscus.

The symptoms, diagnosis and treatment may be brought out by representative cases.

No. 1.—J. K., age 31, mechanic, wt. 171 lbs. Complaining of pain in the right lower abdominal quadrant of three years duration. Appendix removed by a competent surgeon with no relief of symptoms. Pain usually present after eating but relieved by lying down. G. I. by radiologist reported negative. In the upright position, under the fluoroscope, the hepatic flexure was seen below the crest of the ilem. A supportive belt was advised and since that time (almost three years ago) he has been free from symptoms while wearing the belt. He has attempted to go without support but always has a recurrence of symptoms.

No. 2.—B. N, age 28, housewife. Complaining of pain in the upper right quadrant, "gas on stomach," and vomiting. The vomiting became very persistent and the patient lost weight rapidly. X-ray diagnosis of cholelithiasis. On operation, a thickened gall bladder with a calcified ulcer on the fundus was found. The appendix was removed at the same time. The patient made a slow recovery and after being allowed up, the vomiting and pain recurred. Under the fluoroscope, there was evidence of marked visceroptosis. Her symptoms have subsided since support was supplied and she has gained twenty pounds in the last year. She persists in arranging her belt while she is in the upright position and has recurrences when she does so.

No. 3—Mrs. C., housewife, age 40. Complaining of dragging pain in both lower abdominal quadrants. A pan hysterectomy had been done at one of the "clinics" with no relief of symptoms. On fluoroscopic examination in the upright position, the colon was seen bunched in the pelvis, in the recumbent position, the colon could be massaged up to its normal position. A supportive belt did not hold the viscera and we were forced to advise rest in bed with the foot of the bed elevated. Since then she has gained weight and is up and co able.

No. 4—L. C., traveling salesman, age 50. Complaining of acute pain in the epigastrium after eating, pain relieved by vomiting or by lying down and massaging the abdomen. As he was a rather obese individual, we were surprised to see the lesser curvature of the stomach parallel to the spine and the pyloris below the level of the umbillicus. We have seen him a number of times in the past three years and he states that he has no recurrence as long as he wears his belt.

CONCLUSIONS

1. Visceroptosis may simulate many abdominal lesions.

2. A surgeon should observe his patient under the fluoroscope no matter how confident he is of his radiologist's ability.

3. Confidence in surgical procedures may be restored by a more conservative view point by the surgeon.

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TANNIC ACID TREATMENT OF BURNS*

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The use of tannic acid in treatment of burns was first brought out by Dr. Edward C. Davidson' who published the result of his clinical use of this drug in burns in 1925. The treatment of burns by other means had not been satisfactory in our hands and we were very willing to try any new methods that might be suggested.

In a burn, the constitutional reaction is due to the absorption of a toxic substance or substances from the burned area. The theory upon which this drug acts is that the tannic acid coagulates the toxic secretion that is produced by the burns, tans the burned areas, fixes any toxic material that may be present in the burned areas and prevents its absorption. Incidentally, the local astringent effect of the tannic acid prevents the loss of body fluids.

In severe burns, patients generally die within the first twenty-four hours from shock, and tannic acid or any other mode of treatment applied to the burns will not prevent these fatal cases from occurring. It is in the period of absorption which occurs within a few days following the burn that tannic acid prevents the absorption of this toxic material.

The management of a burned case is about as follows: The patient is first given a hypodermic of morphine, if necessary, to lessen the pain. The burned areas are then covered with a saturated sterile gauze soaked with 2 1-2 percent or 5 percent aqueous solution of tannic acid. Some men have advocated the use of a spray of tannic acid solution as it prevents the peeling off of some of the tanned tissue when the dressings are removed. The tannic acid is made up fresh just before using—you may have on hand a measured amount of tannic acid powder and all that is required is the addition of the water. To make the solution fresh, four teaspoonsful of tannic acid powder added to a glass of water makes approximately a 2 1-2 percent solution. On standing, the solution deteriorates. For physicians using this treatment for burns, I would suggest that they keep tannic acid powder on hand at all times so that no time would be wasted in the application of the solution to the burn. We have removed the tops of the blebs so that the solution would come in contact with the under-lying burned area.

The burned areas may be inspected at intervals of 12, 18, or 24 hours so that as soon as the burn has assumed a brown color, all tne dressings may be removed. If the burns are well tanned, the dressings are removed and left off, and the burns allowed to dry under a cradle with electric lights on it. At no time should the burned area be moistened with boric acid or other aqueous solutions as this allows the absorption of the toxic substances.

In a few days the tanned tissue begins to curl up at the edges and in the superficial burns, a healthy pink skin is found beneath. To aid in the removal of this tanned tissue, vaseline or oil may be applied to the skin. The application of the tannic acid has an analgesic effect and the patient has less pain than with other means of treatment. As the tanned crust is loosened healthy granulations are found beneath the burn and epithelization seems to be encouraged by this treatment as the superficial crust acts as a bridge for the spread of the epithelium over the burned area. There is apparently less scarring following this treatment than in any other we have ever used. In the deeper burns, such as are found in electrical burns in which the whole thickness of the skin and underlying structures are burned, the coagulating effect of the tannic acid is lessened to such an extent that infection occasionally occurs in the underlying sloughs.

Should infection occur beneath the crust, it is necessary to excise the crust and any devitalized tissue removed, and Dakin's solution or acriflavin solution applied to the infected areas. Subsequent skin graft can be done.

In our experience, the best results in the tannic acid treatment have been attained in burns due to actual flame or steam. We have used this treatment rather extensively on electrical burns, the majority of which have been third degree burns, and even in this type of case the toxemia from the absorption of devitalized tissue is less when treated by tannic acid solution than in other forms of treatment but the results have not been as satisfactory as those in

*Read before the Surgical Section Annual Meeting Oklahoma State Medical Association, May, 1929, Oklahoma City.

which the burn has been obtained from actual flame or steam. This condition is not unexpected as it is well known that electrical burns are generally very penetrating and the sloughs very deep.

The mortality from burns is lessened by this form of treatment. Beekman' reports that the mortality has been decreased from 28 to 15 percent in a series of 434 cases of burns in children. This decrease of mortality is the result of lowering the death rate from toxemia by two-thirds. In our industrial cases, we have been able to return the patients to work earlier than previously.

We have used this method of treatment on practically all our burned cases since 1926 and believe it is the best form of treatment of burns that we know of at this time. It is superior because:

1. It does away with the greasy, oily, time consuming, daily dressings usually used.

2. It is a method of treatment that can be used by any physician.

3. The patient has less pain with this means of treatment.

4. The danger of infection is lessened.

5. There is less systemic constitutional effect from the burn.

6. There is less scar formation and more rapid healing.

7. The mortality from burns is decreased by this treatment.

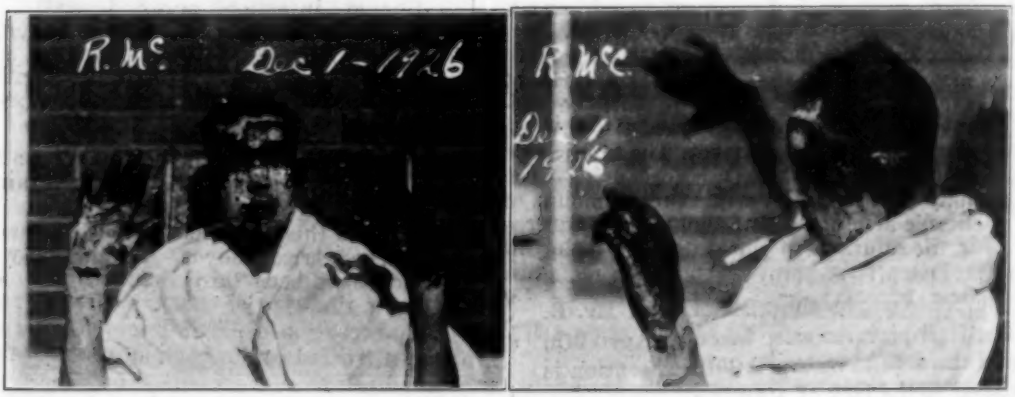
R. McC. NOVEMBER 14, 1926.

Patient Mr. R. Mc. was burned on November 12, 1926, while working in a manhole and there was a gas explosion and he sustained marked second and third degree burns of the face, neck, ears, forehead and hands.

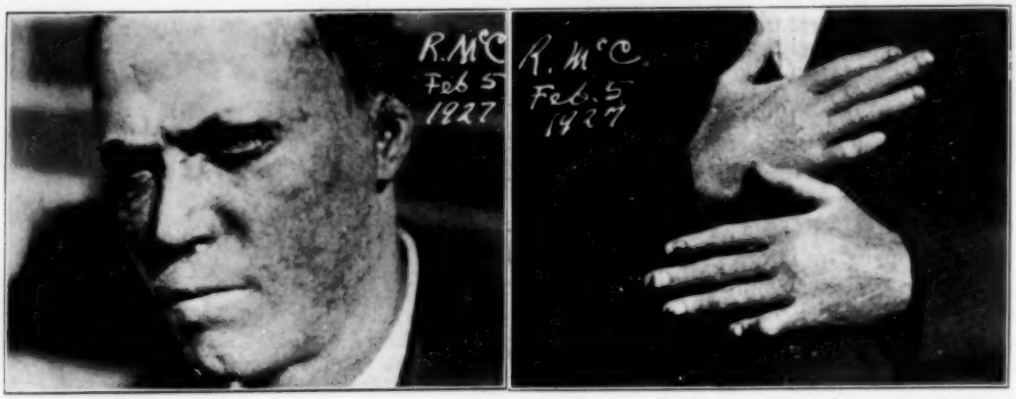
Application of tannic acid solution was given immediately and the patient had very little distress.

Photographs were taken on November 14th, and another set on December 1st, the last pictures were taken on February 5th, 1927. The patient returned to work about the middle of January, 1927.

Attention is called to the lack of scarring and the small amount of contracture occurring in the hands.



R. McC. DECEMBER 1, 1926.



G. E. and V. B.

Patients G. E. and V. B. were working in an underground tunnel on April 7th, 1929, when the gas became ignited and they sustained burns of the face, neck, and hands. First aid treatment was the application of some kind of ointment and when they were first seen by us, they were in considerable pain. The ointment was cleaned off and tannic acid treatment was instituted. After the application of tannic acid, they had no more pain and it was never necessary to give them any kind of medication for pain.

Mr. B. returned to work on April 19th, 1929, and Mr. E. returned on April 23rd. The photographs show Mr. E. and Mr. B. The first pictures were taken on April 9th, and the second on April 30th. Attention is called to the lack of scarring.

MR. C. R. O.

Patient Mr. C. R. O. received a second degree burn of the entire face and forehead from a flash from a D & W oil fuse on April 19th, 1929. Tannic acid treatment was immediately applied. The patient had no pain. It was never necessary to give him any opiate. He was in the hospital only a few days and returned to work on May 6th, seventeen days after he was burned.

The first photographs were taken on April 21st, and the second on May 15th, 1929.

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SPINAL ANAESTHESIA*

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Spinal anaesthesia or subarachnoid block has, since its introduction into surgery by Bier in 1898, gone through the same cycle as have many other new procedures; grown rapidly into popularity and then just as rapidly declined into almost oblivion, only to be taken up again and by intelligent research done by earnest and able workers, it has gained a high place in the minds of surgeons in various parts of the country. It has changed from a hazardous procedure to one of perfect safety in so far as operations below the diaphragm are concerned. Of course, for this to be a safe procedure it is imperative that one using this method of anaesthesia must be perfectly familiar with and experienced in following an accepted technique, for example, that of Dr. Gaston Labat. Naturally, having had Dr. Labat's course his is the technique I follow. Dr. Labat reports the use of spinal anaesthesia in several thousand cases without a single fatality. This certainly is very definite proof that it is safe in the hands of an experienced operator.

The technique is as follows: One hour before the anaesthesia is to be induced, give the patient 1-6 gr. of morphine and 1-300 gr. of scopalamine hypodermically for the purpose of eliminating the factor of apprehension and discomfort on the operating table. When ready to begin have the patient sit upright across the operating table with both feet resting on a stool at the side of the table; have his back arched and leaning a little forward with the back muscles relaxed, supported or steadied by an assistant or nurse. Prepare the skin and drape the field with sterile towels. The site of puncture varies with the extent of anaesthesia required. For operations on the lower extremity, anus, perineum, external genitalia, and perineal prostatectomy, make injection between the third and fourth lumbar vertebra. For suprapubic prostatectomy, appendectomy, inguinal herniotomy, inject between the second and third lumbar vertebra. For abdominal hysterectomy, inject between the first and second lumbar vertebra. For operations on kidney, ureter, gall bladder and all opeations on the upper abdominal organs, inject between the twelfth dorsal and first lumbar vertebra. Injection between the twelfth dorsal and first lumbar gives anaesthesia to the level of the nipple line.

The next step is to make an intra-dermal wheal with two percent novocain at the selected site of puncture; then take spinal puncture needle which should be of medium gauge and length, about 1.1 m. m. thick and 80 m. m. long; it should have a short bevel, at the most about 1.5 m. m. The point should be very sharp and the needle should be rigid and flexible; it should be made of unbreakable material and should not bend too easily. The stylet should fit the lumen of the needle exactly

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and smoothly and should be ground to bevel with the needle. A pin-lock at its hub keeps the stylet in its correct position. The special needle devised by Labat answers all these requirements. Make the spinal puncture through the intradermal wheal, withdraw the stylet to be sure that the spinal fluid flows freely. After this has been determined, take the ampule of neocaine, also called French novocain, which has been filed open at the neck and withdraw the stylet from the spinal puncture needle and let the spinal fluid drop into the ampule until it is filled, being careful not to spill any of the fluid. These ampules contain sterile neocaine in the dosage you desire—for example, you use the .10 gram size for a patient of average size, that is, up to 150 pounds weight, for patients over 150 pounds weight use the .12 grams size. The neocaine dissolves readily in spinal fluid; after it is completely dissolved, draw the contents of the ampule into a 10 c.c. syringe which fits your spinal needle. Attach the syringe to the spinal needle after all air has been expelled from the syringe and slowly withdraw more spinal fluid until the syringe is filled, then discharge about one-half the contents of the syringe into the subarachnoid space, now withdraw again filling the syringe, repeat this procedure three or four times and then completely empty the contents of the syringe into the subarachnoid space. Now withdraw the spinal needle and this process is completed.

Immediately place the patient flat on the table and drop the table into the Trendelenburg position making sure the head is lower than the hips. Now as soon as you can prepare your field of operation and drape your patient, you may begin your surgery, the anaesthetic effect is almost immediate and will last from one to one and one-half hours. The patient must be kept in the Trendelenburg position until the operation is completed. As soon as he is on his back he is asked to take a few deep breaths through his mouth and continue breathing naturally. It is well to have a trained assistant to sit at the head of the patient and instruct him to breathe through his mouth deeply any time he feels nauseated; also, this assistant can make the patient more comfortable by the application of cold wet sponges to the neck and forehead; he may give the patient a few sips of cold water or cracked ice all during the operation.

In transfering the patient from the operating room to the bed, the stretcher should be kept in the Trendelenburg position and the bed should be already in the lowered head position and should be kept thus for three hours from the time of the injection. It is well to give the patient a cup of black coffee as soon as he has returned to bed.

During the operation the pulse may get weak and the blood pressure may drop very low, even to zero, but if the general condition looks good and the respiration is all right, there is no need of medication to change this as it will return to normal in a short time. Many men using this form of anaesthesia lay much stress on the importance of watching the blood pressure and pulse and give ephedrin, adrenalin and many other stimulants to prevent or rectify these conditions but Dr. Labat says he has never seen it necessary to give anything. In my small and limited experience with this form of anasthesia, I have never given any form of stimuli and none of my cases have shown any ill effects.

The danger in spinal anaesthesia is respiratory failure due to acute anemia of the brain. This is easily prevented by immediately placing the patient in the Trendelenburg position which, I think, is the only prophylaxis necessary.

Spinal anaesthesia is indicated in any operation below the diaphragm except in cases of gastro-intestinal perforations and localized peritonitis. In intestinal perforations, the intestinal contents would be milked out as a result of the contracted bowels and hyper-peristalsis; for the same reason localized peritonitis would be spread to the entire abdominal cavity following the destruction of protective adhesions. It is well not to use this procedure in syphilitic or epileptic patients, because of the occasional coincidence of pathologic developments inherent to their diseases which might be attributed to the anaesthesia. To illustrate, I did an appendectomy on a woman who, several days following the operation, developed some very marked mental symptoms which persisted for about two weeks. On investigation, I found that this patient was subject to these attacks and had some very similar ones several times before. After obtaining this information, I felt sure that there was no relation between the anaesthesia and the mental symptoms except that they were coincident.

Spinal anaesthesia finds an unquestionable indication in patients suffering from chronic conditions of the lungs, heart, liv-

er and kidneys, and also, in very fat people who are, as a rule, very bad subjects for an inhalation anaesthesia.

This type of anaesthesia has many advantages; the greatest one, I think, to the surgeon, is the absolute relaxation of abdominal muscles which gives him much better access to the field of operation; for pelvic operations it is ideal, no packing of the intestines is necessary as they are collapsed and entirely drawn away from the other pelvic organs and instead of having to make pressure with sponges and retractors to keep them clear of the field of operation, all we need do is to spread an open sponge across the upper end of the incision which separates the intestines from the field of operation. This, I am sure, cuts down the element of shock to a great degree.

Another great advantage is that we have very little post-operative nausea or vomiting, no gas distension, no lung or kidney complications; convalescence seems much more rapid, normal diet may be resumed much earlier, in fact, as early as the operative procedure will permit.

I have done one hundred and thirty surgical cases with this method of anaesthesia and I am certainly highly impressed with the results I have had. I have had two failures to obtain anaesthesia and in neither of these cases did I have any apparent anaesthesia. I attribute this failure to faulty technique. I think, that in attaching the syringe to the needle, I probably pulled the needle out of the subarachnoid space and injected my solution into the deep structures of the back. In both of these cases, we gave the patient ether and went on with the operation which is a perfectly safe procedure in any case when ether is not contra-indicated. My cases include leg amputations, herniotomies, hysterectomies, appendectomies, cholecystectomies, hemorrhoidectomies, perineal repairs, Caesarian section, etc., and the results have been gratifying in all these cases.

I might here mention two or three specific cases. One of the most interesting was a pregnant woman at full term, weighing about 350 pounds who was refered in. We found she had a blood pressure of 280 and all the symptoms of eclampsia; urine contained much albumen and many casts. We did a Caesarian section on her under spinal anaesthesia and delivered her a normal twelve pound baby. She made an uneventful recovery and rapidly returned to normal. I am sure that this patient would have been no fit subject for inhalation anaesthesia of any type. Another case was a prostatectomy in a man 83 years of age who showed no ill effects and made an uneventful recovery; another case was a cholecystectomy in a man 76 years of age who also made an uneventful recovery in spite of the fact that he had Bright's disease and a myocarditis which were surely contra-indications to an inhalation anaesthesia. Another interesting case was a woman who had a ruptured ectopic pregnancy, at the same time having an acute bronchitis and an influenza; she also, showed no ill effects and made an uneventful recovery. These patients all seem to like this form of anaesthesia. They have absolutely no pain, very few are nauseated and many of them express themselves as being pleased that they have not taken ether. The ones who appreciate it the most are those who have previously been operated under inhalation anaesthesia.

Finally, I want to mention again the importance of getting the patient into the Trendelenburg position immediately after the injection and keep him there for three hours. This, I am sure, is the most important step in the whole procedure. This whole technique of spinal anaesthesia is simple but it must be followed very exactly, and I am sure that anyone who does this will have excellent success and very gratifying results. My opinion is that in a very few years this form of anaesthesia will be the one of choice.

INTRA-CISTERNAL TREATMENT OF NEURO-SYPHILIS—PRELIMINARY REPORT

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INTRODUCTORY

The Swift-Ellis method of intra-spinal treatment of syphilis has been fully accepted by the medical profession as beneficial in certain types of neurosyphilis. In attempting to develop a method of treatment which would reach several types of this disease, it was decided to inject arsphenamized auto-serum intracisternally, the Cisterna Magna (cerebello-medullaris) being more of an anatomical and physiological distributory center of fluid than

the spinal subarachnoid space. It has been shown that material injected into the lumbar space reaches the base of the brain only in small amounts[1]. Intracisternal injection of the anti-meningococci serum is now considered as the best procedure in the treatment of epidemic cerebro-spinal meningitis. Intracisternal injection is a necessary procedure in making Roentgen-ray examinations of some of the brain and spinal cord conditions.

HISTORY

Puncture of the cisterna magna was first done for diagnostic, and later for therapeutic purposes. The technic has been developed principally in the last decade. Wegeforth, Ayer and Essick[2] described the method of obtaining cerebro-spinal fluid by this procedure in 1919. Later, Ayer, his associates and students, developed the technic and demonstrated the advantage of such an approach to the cerebro-spinal circulation for various purposes. McKusker[3], in 1921, reported his initial case. As stated above, in 1928, in an attempt to develop a treatment for certain types of neuro-syphilis, the intracisternal method was decided upon. After injecting the arsphenamized auto-serum, the plan was to follow each injection by an intravenous hypertonic solution which would draw this serum into the brain tissue. For reasons detailed below, saturated glucose was the hypertonic solution of choice. After having pursued the above method of treatment for some three months, perusal of the literature revealed that in 1922, Franklin G. Ebaugh of Trenton, N. J., (now director of Colorado Psychopathic Hospital of Denver) had used a somewhat similar method.[4]

PLAN AND TECHNIC

In detailing the various steps of this treatment, it is well to emphasize:

(a) The types of Neurosyphilis selected which were expected to receive benefit;

(b) Method of preparation of the serum;

(c) Method of performing the puncture and injecting the serum; and

(d) The care of the patient immediately thereafter.

The Swift-Ellis intraspinal therapy is of special therapeutic value in those types of neurosyphilis showing optic atrophy and also in the various types of spinal cord involvement, and these two types were selected to have intracisternal therapy. A third group used was those having definite neurological and mental symptoms of early neurosyphilis but whose serology of the spinal fluid was essentially negative, continuously. The fourth type was the parenchymatous cerebral type (general paralysis) which had responded well physically and mentally to other standard methods of treatment, but who after two or more years of regular systematized treatment, continued to show highly positive serological tests of the spinal fluid. In this type, it was hoped that the positive serological findings, which to us means that there is continued infection, might be altered. Since in all types of neurosyphilis, salvarsan when first given, severely aggravates the nervous and mental symptoms, no patient with neurosyphilis should be given this treatment without first having had some of the other methods of treatment, such as tryparsamide, spinal drainage, mercury, bismuth, and fever therapy.

The serum is prepared essentially by the Swift-Ellis method. The patient is given 0.9 gram of neosalvarsan intravenously by the syringe method. One hour later, 40 c. c. to 60 c. c. of whole blood is removed by aseptic methods, and placed into sterile centrifuge tubes. These are placed on ice, the clot permitted to form, centrifuged; the clear serum pipetted off, and just before using, is inactivated in a water bath for 30 minutes at 56 degrees. Later on during treatment, 0.75 to 1.0 mg. of neosalvarsan is added to the serum. On the morning of the treatment, the individual has breakfast omitted, is placed in bed and given 1-4 grain morphine and 1-150 grain atropin hypodermically. In about fifteen minutes, the patient is placed on the operating table, head slightly flexed but perfect alignment of the vertebral column is maintained. A pillow or some other suitable head rest is essential. The neck having been perfectly cleansed and shaved, is now sterilized. An assistant steadies the head, which in turn is draped with sterile towels. For the first few treatments, that is until the operator is thoroughly acquainted as to how the patient reacts to the needle prick, it is advisable to use a small amount of local skin anesthetic. Afterwards, in most cases, it is unwise to use the local anesthetic because the pain of the anesthetic needle, with the small amount of swelling of the tissues causes about as much pain as does the

spinal needle of the size which should be used, and furthermore, the infiltration of the tissues may cause sufficient swelling to interfere with the regional landmarks. A number 19 needle with a mark six centimeters from the point is inserted through the skin, above the spinous process of the axis, is pushed anatomically forward and upward toward the occiput on or slightly above a line pointing toward the external auditory meatus. Aiming slightly above this line, permits the needle to enter the cistern at a point farthest from the brain stem. Should the needle point touch the occipital bone, by slight depression, the needle may be made to pass underneath the bone and enter the cistern at the foramen magnum. The cisterna lies from three to five centimeters from the skin when approached by the above method and the needle should never be deeper than six centimeters. From 25 to 75 c. c. of fluid is removed, and subsequent injection of approximately 25 c. c. of the prepared serum which has been warmed to body temperature. At the first injection, 12 c. c. of the whole serum added to 13 c. c. of warm normal saline is used, but at subsequent treatments, the whole serum is gradually increased in amount until the 25 c. c. is composed entirely of serum and the desired amount of neosalvarsan. Injection is done with a syringe, taking usually, from three to five minutes to inject the 25 c. c. of fluid. Immediately after this, 50 c. c. of saturated glucose is given intravenously. The patient is kept in bed from ten to twenty hours.

THEORY

The theoretical advantage of this form of treatment is now given in detail. The value of arsphenamine products lie not only in the spirocheticidal effect of the preparations, but also in the specific antibodies which they are supposed to produce by reaction with the patient's tissues. In ordinary circumstances, no arsenic reaches the cerebro-spinal fluid when neosalvarsan is injected into the blood stream. Injection into the cistern of the arsphenamized auto-serum when reinforced with some of the neosalvarsan solution, places in direct contact with the brain both the arsenical preparation and the specific antibodies. The cistern, as a center of approach, has advantages over the lumbar subarachnoid spaces, and also over the ventricles. As mentioned above, material injected into the lumbar subarachnoid spaces has been proven[1] to reach the base of the brain only in small amounts while being placed into the cisterna, it is already directly at the base of the brain and with the individual in a prone position spreads rapidly over the brain surface. Intracisternal injection may be performed at weekly intervals for a period of six to eight weeks, and after a few weeks' rest this can be repeated. Because of the necessity of removing bone for ventricular approach and because of the necessity of piercing brain tissue, one should hesitate before giving very many ventricular injections to the same patient.

A hypertonic solution decreases intracranial pressure by withdrawal of fluid from the subarachnoid spaces and from the adjacent nerve tissues. Intravenous injection of the hypertonic solution immediately after intracisternal injection of the serum with its arsenical and antibody content is supposed to draw into the brain tissue some of the material injected into the cisterna. Saturated glucose is the solution of choice because it is non-toxic[2], decreases cerebro-spinal pressure as well as any of the salt solutions and has some healing effect on inflamed nerve tissue. Glucose also supplies some nourishment to the individual. All hypertonic salt solutions, such as, magnesium sulphate, sodium chloride, etc., have been proven to be toxic[3].

RESULTS

The present plan is to give the individual a treatment each week for seven weeks. In a few cases, the patients have had intervals of two or three weeks between treatments. Some patients lose weight and become weakened when given weekly intravenous injections of neosalvarsan alone. To given maximum doses of neosalvarsan, and the following day to have the treatment with breakfast omitted, in some cases, may temporarily upset the patients' physical equilibrium. (It is advisable always in treating neurosyphilis, to observe; to study; and, as much as possible, to "know" your patient.) Mercury or bismuth is given bi-weekly along with the other treatments.

While inserting the needle, no complaints by the patients, nor complications of any nature, have been experienced. Too rapid withdrawal of the fluid, has in a few cases, caused the patient to complain of dull headache, best described as a tight band around the head. This never lasted over one or two hours, has not caused the

patient any real discomfort and is not experienced if the fluid is permitted to flow of its own accord. On two occasions, in different patients, a small amount of blood came out with the fluid as long as the fluid was permitted to drain. In both of these cases, the patients experienced some headache with vomiting which lasted for two or three days. Both of these patients were ready for treatment the following week, and showed no similar complications at subsequent treatments. Evidently the needle point had penetrated the meningeal vascular plexus which overlays this part of the medula. Shortly after the injection of the serum-fluid has begun, most patients experience a warm tingling sensation, which begins about the face, neck or upper extremities, and then spreads over the entire body. No special points associated with the intravenous glucose have been noticed. Polyuria for a few hours after administration of the glucose was expected and was present in varying degrees in each case. From three to six weeks after completion of a course of these treatments, the patients variously expressed themselves as "feeling better," "less dizzy," "being able to walk better," "mind seems clearer," etc. Several expressed themselvs as not having as much headache, and having less discomfort than they did from either Swift-Ellis or simple lumbar drainage. For eighteen months, at irregular intervals, six spinal drainages were given to the patient in Case Number 11, (Table I) before intracisternal treatment was instituted. Each time the post-spinal headaches had been so severe that adrenalin, intravenous hypotonic salt solutions, nor absolute rest would alleviate them very much. A cisternal drainage was tried on the patient without any headache or even slight discomfort following. He was then given weekly cisternal injections of the auto-serum without any complication.

Twenty-two patients have had a total of 119 treatments as above described. The greatest number any one patient has yet received is 10. Nine of the twenty-two; Cases Numbers 1, 4, 5, 6, 10, 17, 18, 19 and 21, have shown sufficient improvement in Wassermann tests of the spinal fluid with this small number of treatments that it seems there is a possibility of beneficial serological results being obtained by the method. Patients in cases numbers 5, 6, 10, 17, 18 and 21 are of the general paralytic group with highly positive serological tests. It was primarily this group, which stimulated the search for a method of treatment that would alter the positive serological reaction.

SUMMARY AND CONCLUSIONS

1. Since this paper is a preliminary report based on six months' observation, no final conclusions are to be drawn.

2. Intracisternal medication is a safe procedure, but because of the proximity of the medulla, careful study of the landmarks and important structures should be studied, and some experience of performing the puncture should be obtained on the cadaver. The "feel" of a needle piercing the dura mater is important to have, and can be cultivated by doing simple lumbar punctures.

3. Theroetically, because of its anatomical and physiological location, the cisterna cerebello-medullaris is a better place for administering arsphenamized auto-serum than the lumbar route which is used in the Swift-Ellis method.

4. Following the intracisternal injection, saturated glucose intravenously should be of benefit.

5. By the technic described above, over a period of six months, twenty-two patients having a total of 119 punctures with intracisternal medication have offered no complaints, and no complications of any importance have been noticed.

6. Headaches following the punctures and treatments have been negligible, and "nil" when comparing them to the post-spinal headaches which are so frequent after simple drainages from the lumbar region.

7. Careful consideration of all previous treatment, and careful study of the reaction of the patient to each intracisternal treatment should be given before over 0.75 milligram of neosalvarsan solution is added to the serum.

8. By the one fact that some patients have complications following lumbar punctures, cisternal puncture is a procedure, helpful to any physician doing diagnostic or therapeutic neurological work.

CASE REPORTS

The following are five case reports which typify the various responses to the treatment:

Case No. 1. B. E. B.: Age 44, Interstitial type of neurosyphilis, with mental

symptoms of three years duration. Was given several courses, six to eight weeks each, of three grams of tryparsamide weekly, with spinal drainage on alternate weeks, and mercury or bismuth intramuscularly bi-weekly. Later on, he was given a few courses, of six to eight weeks duration of neosalvarsan weekly, and mercury, or bismuth bi-weekly. At no time did the spinal Wassermann, with 1 c. c. of fluid, show any tendency to diminish. After ten intracisternal treatments, the Wassermann reaction, with 1 c. c. of fluid, never went over 1 plus, and on two occasions showed negative. He is at home helping to support his family.

Case No. 4. J. F. D.: Age 38. Meningo-vascular syphilis of three and one-half years duration. When symptoms first started, he was given three weekly injections of neosalvarsan, and rapidly became more excited and restless, and it was necessary to commit him to the State Hospital because of his nervous and mental condition. On tryparsamide and spinal drainage, he very quickly began to respond to treatment, and for the past two and one-half years, he has been back at his former occupation. He has taken his treatment regularly, the treatment consisting of courses of six to eight weeks duration similar to that reported in Case No. 1. The cell count and globulin rapidly approached normal, but the Wassermann reaction continued highly positive. After five intracisternal treatments, the Wassermann reaction has become, and remained, negative. He successfully continues his work as insurance salesman.

Case No. 5. B. M.: Age 28. Real estate and insurance. Early general paralysis. Developed neurosyphilis in the Fall of 1924. Was placed in a private sanitarium for six weeks where he received three Swift-Ellis treatments. Showed some improvement. Was transferred to the State Hospital where he remained for three months, receiving a few irregular intravenous injections of tryparsamide and neosalvarsan.

He came under our care June, 1925; was given five courses of treatment varying from six to eight weeks, consisting of .3 grams of tryparsamide weekly, spinal drainage on alternate weeks, mercuric cyanide (12 to 20 minims) intramuscularly, with rest periods of from five to twelve weeks duration. Became much better mentally and returned to his former occupation.

His serological tests improved in every respect, except the Wassermann reaction, which remained highly positive in both blood and spinal fluid. Treatment was continued, substituting neosalvarsan (0.45 to

No.	Name	Type of Neurosyphilis	Duration of Symptoms	Amount and Nature of Previous Treatment	Number of Cisternals	Spinal Wassermann 1 c.c. Fluid		Name
						Before	After	
1	B.E.B.	Intersititial	3 yrs.	Tryp., Sp. Drainage, Neosal., Mercury and Bismuth, (3 years).	10	4 plus	1 plus	At home; working; in good physical and mental states.
2	R.D.	Paresis (Mod. Advanced)	3 yrs.	3 yrs. of Sp. Drainage Neosal., Mercury, Bismuth and Swift Ellis.	10	4 plus	3 plus	At home; at former occupation; good physical and fair mental states.
3	W.F.L.	Paresis (Mod. Advanced)	2 yrs.	2 yrs. of Sp. Drainage, Neosal., Mercury and Bismuth.	7	4 plus	4 plus	At home; working; in fair physical and mental condition. (Spinal fluid not checked on in 8 weeks).
4	J.F.D.	Early Meningo—Vascular	3½ yrs.	3 yrs. of tryp., Sp. Drainage, Neosal; Mercury, Bismuth.	5	4 plus to 2 plus	Neg.	At home; working successfully at former occupation; good physical and mental condition.
5	B.M.	Early Paresis	4½ yrs.	4 yrs. Swift Ellis, Tryp., Sp. Drainage, Neosal., Mercury and Bismuth.	4	4 plus to Neg.	Neg.	At home; working successfully at former occupation. Good physical and mental states.
6	B.W.	Paresis (Mod. Advanced)	2½ yrs.	2 yrs. Spinal Drainage, tryp., Neosal., Mercury and Bismuth, Malaria.	5	4 plus	4 plus to weakly pos.	At home on "Rest Periods" only. Considerable Dementia, fair physical condition.

7	C. Mac.	Paresis Advanced	2 yrs.	2 yrs. of Spinal Drainage. Tryp., Neosal., Mercury and Bismuth.	7	4 plus	4 plus	Much dementia. No amelioration physical or mental symptoms except temporarily after tryp. course.
8	L.M.	Paresis Advanced	3½ yrs.	3 yrs. of Spinal Drainage, Tryp., Neosal., Mercury and Bismuth, both Malaria and Protein Fever Therapy.	9	4 plus	4 plus to weakly pos.	In Hospital, much improvement, much Dementia, but cooperates well. Parole Hos. Grounds.
9	M.L.	Paresis (Mod. Advanced)	2½ yrs.	2 yrs. of Sp. Drainage, Tryp., Neosal., Mercury, Bismuth and Malaria.	5	4 plus	4 plus	Home; at former occupation farming. Some dementia. (Spinal fluid has not been checked on in past 8 weeks.
10	L.J.B.	Paresis Advanced	4½ yrs.	4 yrs. of Sp. Drainage, Tryp., Neosal., Mercury, Bismuth Malarial and Protein Fever.	5	4 plus	1 plus to weakly pos.	Much improved mentally and physically. Some dementia and an occasional convulsion. Parole of hospital grounds and doing carpenter work daily.
11	S.J.	Meningo-vascular. Perhaps gumma also	18. mos.	1 yr. occassional Sp. Dr., Tryp., Neosal.. Mercury and Bismuth.	8	4 plus	4 plus to weakly pos.	Much improvement mentally. No physical deterioration. At home doing some farm work.
12	F.P.	Paresis (Advanced)	3 yrs.	18 mos. Sp. Drainage, Tryp., Neosal., Mercury and Bismuth.	5	4 plus	4 plus	At home; much improvement mentally and physically in spite of brain destruction and dementia.
13	J.P.	Paresis (Terminal Stages)	4 yrs.	3 yrs. Sp. Drainage, Tryp., Neosal, Mercury and Bismuth.	3	4 plus	4 plus	Some response with tryp. and Sp. drainage at first. Later advanced in spite of all treatment. Now dead.
14	H.K.L.	Paresis (Advanced)	5 yrs.	2 yrs. Sp Drainage, Tryp., Neosal., Mercury and Bismuth Malaria, Swift-Ellis and Protein.	7	4 plus	4 plus	Some response mentally and physically. None serologically. Pt. continues to gradually deteriorate.
15	C.H.D.	Interstitial Cerebrospinal	1 yr.	1 yr. Protein fever. Sp. Drainage, Tryp., Neosal., Mercury and Bismuth.	7	Neg.	Neg.	Much improvement mentally. There has been little or no physical deterioration. Ready to return home.
16	W.H.J.	Paresis (Far Advanced)	3 yrs.	18 mos. Sp. Drainage, Tryp., Neosal., Mercury and Bismuth.	3	4 plus	4 plus	Badly demented and far advanced before being placed on treatment. Very mild response mentally and physically (expect no further improvement but rather rapid deterioration).
17	T.G.	Paresis (Far Advanced)	2 yrs.	18 mos. Sp. Drainage, Tryp., Neosal., Mercury and Bismuth.	7	4 plus	Neg.	Considerable dementia. Moderate response to treatment. (Fearful that condition will be rather rapid in progressing).
18	C.W.	Neurosyphilis with Paranoid reaction.	2 yrs.	Malaria and 14 mos. of Sp. Drainage, Tryp., Neosal., Mercury and Bismuth.	3	4 plus	4 plus to mod. pos.	Mild dementia. A fixed Paranoid reaction present. Patient in good physical condition.
19	P.R.	Paresis (Advanced)	3 yrs.	18 mos. Sp. Drainage, Tryp., Neosal., Mercury and Bismuth.	4	4 plus	Neg.	At home, at work. Some dementia present but in good physical and mental states.
20	G.P. (Colored)	Paresis (Advanced)	2 yrs.	2 yrs. Sp. Drainage, Tryp., Neosal., Mercury and Bismuth. Malarial Inoculation gave no chills.	3	4 plus	4 plus	No response to treatment. Now dead.
21	R.B.A.	Paresis (Mod. Advanced)	3½ yrs.	2 yrs. Sp. Drainage, Tryp., Neosal., Mercury and Bismuth. Malaria.	3	4 plus	Neg.	At home; at work, marked improvement mentally and physically. Little dementia.
22	E.K. (Colored)	Paresis (Advanced)	2 yrs.	18 mos. Sp. Drainage, Tryp., Neosal., and Mercury.	2	4 plus	4 plus	Now dead. Failed to respond in any way to any form of treatment.

0.9 grams) and bismuth for the tryparsamide and mercury respectively. This continued for three courses, when the blood reaction became negative, and has remained so. The spinal Wassermann varied from completely negative to 4 plus. Chronic arsenical dermatitis began to develop, and proper treatment was instituted. Six months later, spinal fluid was normal for globulin and cell count but showed a 4 plus Wassermann, while the blood Wassermann was negative. A course of neosalvarsan and bismuth was given, giving sodium thiosulphate intravenously, at the same time that the neosalvarsan was given. Spinal Wassermann continued to be 4 plus. Intracisternal treatments were given at weekly intervals, four times. Spinal fluid Wassermann has been negative the last three times it was examined. He successfully continues his work in real estate and insurance.

Case No. 9. M. L.: Farmer with moderately advanced general paralysis. 38 years of age, had symptoms of neurosyphilis for two and one-half years. Had tryparsamide and spinal drainage, mercury, bismuth, malarial fever therapy, and protein fever therapy distributed over the two and one-half years' period. Cell count, globulin and spinal fluid became normal, while the Wassermann reaction remained 4 plus. The blood Wassermann has become negative, although the spinal fluid has not been tested for now some eight weeks, since five intracisternal treatments were given. The last test made continued to show highly positive (4 plus) Wassermann reaction. Patient is at home working, shows definite mental impairment, but expects to return for further treatment.

Case No. 19. P. R.: Advanced general paralysis. Patient 36 years of age, having had mental symptoms for two and one-half years. Responded well to tryparsamide and spinal drainage, mercury, bismuth and neosalvarsan but the spinal Wassermann was 4 plus at all times. After four cisternal injections, the Wassermann reaction became negative, and has remained so. The patient is at home working on salary, but cannot command salary he formerly did.

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BLIND SPOTS IN PATIENTS WITH INTACRANIAL TUMORS

Loyal Davis, Chicago (Journal A. M. A., March 9, 1929), studied 105 intracranial tumors. Of these, seventy-two were verified by microscopic sections. The remainder were known to be tumors but were unverified for one reason or another. In addition, the blind spots of fifty normal persons were plotted. Some of the latter had refractive errors, such as myopia and astigmatism, which aided in establishing the size and shape of an average normal blind spot. In the cases of tumor, the blind spots were charted and replotted several times prior to the operation before a photograph was made for the hospital records. In each instance, including those cases of pituitary tumor without the presence of increased intracranial pressure, the blind spots were definitely enlarged above those of a group of normal persons. In all but five of the patients, the tumor was attacked by a surgical procedure designed to remove it. In those instances in which an attempt at removal of the tumor was surgically unwise, a decompression was effected through the operative field. In the five cases mentioned, a primary subtemporal decompression was performed. This was done because the observations of ventriculography indicated that the tumor was surgically unapproachable. Following the operation, the blind spots were again plotted several times before the patient left the hospital, and in every case a definite decrease in size proportionate to the relief from increased intracranial pressure was found. This procedure continues to be an important part of the follow-up examination of our patients. As a result, a complete photographic record of the course of progression and regression in the size of blind spots is a part of each patient's chart. Davis concludes that in enlargement of the blind spots due to increased intracranial pressure, the layer of rods and cones is pushed laterally by the edematous optic nerve papilla. The blind spots of patients with intracranial tumors may be recorded accurately and simply before and after operation. Records of the size of the blind spot are of greater value in determining and following the increase or decrease in papilledema than are ophthalmoscopic measurements of the height of swelling of the optic nerve heads.

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Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Failure to receive The Journal should call for immediate notification of the editor, Barnes Building, Muskogee, Oklahoma.

Local news of possible interest to the medical profession, notes on removals, changes in address, births, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A., will not be accepted.

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EDITORIAL

THE OKLAHOMA STATE MEDICAL ASSOCIATION

The editor of the Journal rather frequently receives letters asking for information relative to the inception and organization of the Oklahoma State Medical Association. As is well known to most of our members, the Oklahoma State Medical Association was organized by the merging of two medical organizations, the Indian Territory and the Oklahoma Territory Medical Associations, this merging occurring after 1905. The first officers of the merged organization being Dr. B. F. Fortner, Vinita, president, and Dr. E. O. Barker, Guthrie, secretary.

Indian Territory Association was organized in Muskogee, Indian Territory, April 18, 1881. The first president, strange to say, was the same Dr. B. F. Fortner, then of Claremore, who years later became the president of the first merged Oklahoma State Medical Association. Dr. M. F. Williams was the first secretary of the Indian Territory Medical Association. There were, according to statements made by old physicians, a few meetings held after that but the organization largely lapsed until reorganization was determined upon and a meeting was held for that purpose in Muskogee, Indian Territory, June 28, 1889. Twenty-two members from various parts of the Indian Territory made up this meeting. So far as is known, all of these are now dead except four: Drs. R. L. and F. B. Fite, Oliver Bagby and G. A. McBride.

Oklahoma Territorial Medical Association was organized at Oklahoma City, May 9, 1893. The constitution of the Indian Territory Medical Association was adopted by the Oklahoma Territory physicians with two minor changes. Dr. DeLos Walker, Oklahoma City, was made president, and Dr. C. D. Arnold, Enid, was made secretary.

Both of these organizations continued to hold meetings in a regular manner until the merger occurred, since which time annual sessions have always been held.

Very good work was done by the members of these societies at a time when attendance upon meetings called for greater sacrifices, more loss of time and a great deal more inconvenience than is the case today. The writer yet recalls, as a boy, listening to some very able, impressive and earnest papers by the then best men in these territories. These older men were very earnest and for that day were strictly abreast of the times. It is significant that the leaders of the early days remained leaders until their death and some of those who were bulwarks of the profession in both territories are known and admitted as such today.

Altogether the writer has most inspiring memories of the old Indian Territory Association. Attendance upon its meetings began sporadically in medical student days and a great deal of good was gotten from them which served as great aid in the struggles of latter days. It is a matter of pride that one may look back upon these past years and recall the startling changes which occurred incident to the dissolution

of Indian government and the organization of State government in Oklahoma. Of course, many ludicrous and farcical things were observed, many really noble actions, many self-sacrificing actions were noted. Many fine things occurred in the making of Oklahoma to its present state of greatness. One thing stands out predominately, however, and that is that the medical profession at all times was abreast of, if not far ahead of, the various stages of evolution and organization through which the territories passed into the State. Some localities, in fact many localities, erected hospitals, and these were erected by individual physicians; not organizations backed by the State or powerful financial interests. As a rule, these hospitals were far ahead of the localities in which they were located. One could get his appendix removed long before he could attend any sort of an opera or enter a restaurant and order a boiled lobster or soft shelled crab. Whenever anything medical was undertaken it was based upon and constructed along the lines of modern knowledge up to that time. The Oklahoma State Medical Association and its honored predecessors, the two Territory Associations, did their share and fulfilled their function in keeping pace with modern advances and the demands of a broader knowledge as medicine expanded into its present great station.

THE QUESTION OF FRACTURES

It was once a rather common saying that a given case was a certain doctor's "walking advertisement." This term "advertisement" was usually used either in a facetious or satirical sense. On one or more occasions the writer has had to refer to some of his own cases as walking advertisements. The explanation lies in the fact that the results were so obvious, they were so bad, that they spoke for themselves, and there was nothing to do or say about it. The end results looked bad to anybody, doctor or layman.

Some wise physician has recently suggested, and truly so, that the proper treatment of fractures was nearly impossible outside of a hospital with the added requirement that the case be in the hands of a surgeon highly versed in the treatment of fractures and profoundly grounded in the mechanistics, physiology and pathology involved. As a rule it is not the very serious fractures, such as those of the femur or other long bones near or involving joints that produce their "advertisements" as much as those that are regarded rather lightly by the physician. It is paradoxical that many physicians think they can handle a Colle's fracture and they proceed to do so, but the end results in the fractures are often very bad. "Sprained" ankles, where no X-ray is made, sometimes flaunt their sardonic selves across the doctor's path as future reminders that it is easy to overlook a fracture in that site.

There is no subject that calls for so much constant study on the part of Oklahoma physicians as the subject of fractures, especially those called simple and common fractures. It has long seemed to the writer that the millennium in fractures might be reached if the mass of physicians could understand and admit to themselves that their interests are too diversified to cover the range they do, including the care of fractures, and that it would be wisdom to select or nominate in each community some one man or men who it was agreed in advance were the best qualified to handle fractures. The average man, the busy practitioner, as a rule, has no trouble whatever in understanding that a compound fracture of the femur is just a little too much of a problem to handle, so he sensibly refers that case to one who more or less specializes in such work. But every practitioner should remember that fractures sooner or later become sources of a great deal of trouble. The aid of frequent X-ray and the help of able consultation, if frequently sought, will help to lessen the liability of such troubles.

Editorial Notes—Personal and General

Dr. A. A. WALKER, Wewoka, has returned from St. Louis where he has been taking a post-graduate course in children's diseases and obstetrics.

DR. and MRS. EUGENE RICE, Shawnee, have returned from Europe where Dr. Rice took special class work and attended clinics in London, Edinburgh and Vienna.

DR. HERMAN FAGIN, Oklahoma City, has returned from three months' post-graduate work in internal medicine at the New York Poly Clinic Hospital. He will hereafter be associated with Dr. W. W. Wells, 712 Medical Arts Building.

OKMULGEE COUNTY MEDICAL SOCIETY opened its Fall meetings October 14th, at Okmulgee, having its Surgical and Nose and Throat clinics in the morning. A skin and cancer clinic was introduced by Dr. C. P. Bondurant, Oklahoma City, in the afternoon. After a dinner Dr. Bondurant delivered an illustrated lecture on "Skin Diseases."

DR. J. P. SUDDERTH, Nowata, suffered from an attack of appendicitis recently.

DR. WADE SISLER, Tulsa, orthopedist, received painful but not serious injuries in an airplane accident near Grove, October 17. Dr. Sisler had been visiting a private club in which he is interested on Elk River and had a negro attendant with him in the plane. For some reason the negro "froze" the control. Dr. Sister was able to right the plane before landing, but not early enough to avoid the accident, which killed the negro.

STEPHENS COUNTY MEDICAL SOCIETY were the guests of Drs. B. H. Burnett, G. O. Hall and L. M. Overton at the Christian Church at the September meeting. Dr. A. L. Blesh, Oklahoma City, delivered an oration on "Surgical Diagnosis," taking mainly the abdominal organs. Dr. A. M. Young, of the State Venereal Clinic, read an interesting paper on "Venereal Diseases." The meeting was profitable and well attended.

THE SOUTHERN MEDICAL SOCIETY held their regular quarterly meeting in Ardmore, Sept. 26th. The meeting was interesting and well attended. The program consisted of an address of welcome by Mayor S. A. George; Prostatectomy, Dr. W. J. Wallace, Oklahoma City; Psychiatry, Dr. S. M. Gregory, Oklahoma City; Sinus Infections, Dr. D. S. Bettison, Dallas Texas; Benefits of the Southern Oklahoma Medical Association, Dr. A. J. Weedn, Duncan. Dr. S. M. Gregory delivered an oration on Love and Neuroses, at the night session, to which the public was invited.

MUSKOGEE COUNTY Medical Society opened its fall meetings with a banquet at the Hotel Severs, October 4th. The meeting was highly entertained by addresses from Dr. Hugh L. Dwyer, Kansas City, Missouri, who talked on the "Trends of Immunization"; Dr. Ray M. Balyeat, Oklahoma City, spoke on "Anaphylaxis and Serumsickness Prevention"; Dr. R. F. Lischer, Mascoutah, Illinois, proved himself a true wit and more than worth the price of admission. His subject was "The Pen Picture of A Country Doctor." Living in southern Illinois among country people, possessed of keen powers of observation and appreciation and sympathy with the problems of the country man, Dr. Lischer evidenced the fact that he was not only a highly informed man but possessed of unusually keen wit.

The meeting was very successful, approximately 75 physicians attended.

OTTAWA COUNTY MEDICAL NEWS

DR. W. G. CHESNUT, Commerce, has formed a partnership with Dr. J. C. Jacobs, of Miami. They have furnished a suite of six rooms in the Security Building.

DR. BAXTER W. SHELTON, St. Louis, has formed a partnership with Dr. J. T. Moon, Miami, locating at Miami September 1st. Dr. Shelton expects to limit his work to General Surgery.

DRS. HARPER, of Afton, Jacoby and Hampton, of Commerce, and Helm, Pinnell, DeArman, DeTar and Wormington, of Miami, attended the Fall Clinics in Kansas City, the first week in October.

DR. C. A. McLELLAND, who was seriously injured in an auto collision last February, has entirely recovered his health, and will re-open his office in the Security Building, Miami, November 1st.

Dr. F. L. WORMINGTON was a visitor to the International Clinics, October 20th, at Detroit, going from the Kansas City Clinic to Detroit, and thence to Washington, D. C., and other Eastern cities.

THERE HAS been a rumor that a new hospital is to be built in Miami in the near future. One of the Sisterhoods of the Catholic Church is reported to be fostering the move. The project has not been definitely determined as yet.

THE NOVEMBER MEETING of the Ottawa County Medical Society will be taken up in the discussion of arrangements for the Sixth Annual Game Dinner which will be held about the middle of December. This Annual "Blowout" of the County Society has become quite famous. Guests from all over the State attend.

DRS. R. H. HARPER of Afton, F. L. Wormington, General Pinnell and M. M. DeArman, of Miami, are going on a hunting trip seeking the wily Ursus Americanus. They expect to spend the first half of November in the wilds of New Mexico in the quest of a few specimens of that genus. If they can't get bear, they will take deer, or failing that, a wild turkey, or a cotton tail will do.

SOUTHERN MEDICAL ASSOCIATION MIAMI, FLORIDA, NOV. 19-22, 1929

When the Southern Medical Association, founded in 1906, began holding its annual conventions, the city of Miami, yet in its prenubile state, numbered in population, five hundred. During this period of scarcely a generation, Miami has metamorphosed, emerged from its chrysalis on Biscayne Bay, and now enjoys the title, Florida's metropolis, with a year round population of 150,000.

Basking in the sun of tropical United States, and blessed with the most equitable climate in North America, Miami is justly called the play ground of the nation. This claim is substantiated by the annual influx of American pleasure seekers, Greater Miami playing host to two hundred thousand each winter.

In the brief space of a few years, Miami has become nationally known as the convention city of the East, having been the convention city for the Shriners, Elks, Lions and other national fraternal organizations. Miami was chosen for these conventions because she is built to play host to vast numbers of guests, her hotel facilities being as fine as can be found in any city in the country.

Amidst tropical beauty and sunkissed seas, boating, horse and dog racing, swimming, superb golfing and fishing, polo, air rides, Jai-Alai games and Madison Square Garden entertainments are offered our guests: everything the ingenuity of man has perfected for pleasure, diversion and recreation that the tropical climate permits of, is waiting you here at the American Riviera. Greater Miami will extend welcome to you as a body and the Dade Medical Society will greet and entertain you and your families individually.

We realize the benefits this city and the local profession will derive from your favored visit. When our work is done and time for play has arrived, you'll find a brief sojourn, by air, to our neighboring foreign cities, Havana and Nassau, will be a fitting chaser to the sparkling drink of American tropics you'll imbibe with us.

Speaking for our city, the Dade County Medical Society bids each member and his family welcome, urges you to attend this twenty-third convention of the Southern Medical Association.

B. L. WHITTEN, M.D.,
Chairman Publicity Committee.

THE RADIOLOGICAL SOCIETY OF NORTH AMERICA

The next meeting of the Radiological Society of North America will be held at Toronto, December 2nd to 6th, inclusive. Headquarters at the Royal York Hotel. The facilities and accomodations at this hotel are the best in the history of the Society and we expect to have a banner meeting in every way. The Scientific Program, Clinics, Scientific and Commercial Exhibits will be of the highest character and exceedingly interesting and instructive. The program will be interesting not only to the Radiologists but to the physicians practicing other medical specialities and general practice as well. A cordial invitation is extended to all physicians as well as radiologists to attend the Toronto Meeting. Secure reservations at once through Dr. W. C. Krugar or Dr. G. R. Reid, 20 College Street, Toronto, Canada. Excellent arrangements have been made to take care of the visiting ladies.

DR. JOSEPH J. HARDY

Dr. J. J. Hardy, sixty-eight year old Poteau physician, died at his home, October 5th after an illness of more than a year.

Dr. Hardy was born February 26, 1861, in Giles county, Tennessee. He graduated from the Louisville Medical College in 1896. He came to LeFlore county soon after the completion of his education and has been a practicing physician up to the time of his death. He was married to Miss Grace Hodgens, in 1908, two daughters surviving this union.

Dr. Hardy was president of the LeFlore County Medical Society for several years. He was also a member of the Masonic Lodge.

Dr. Hardy is survived by his wife and two daughters.

Interment was in Oaklawn Cemetery.

TUBERCULOSIS

Edited By
L. J. Moorman, M.D. and Floyd Moorman, M.D.
912 Medical Arts Bldg., Oklahoma City

A New Analysis of the Value and Safety of Protective Immunization with B. C. G., S. A. Petroff: American Review Tuberculosis, (Sept.) 1929.

Petroff and his associates, during the cultivation of BCG on fluid media, noted a difference in the character of the growth in some of the flasks. After many trials covering a period of six months, they dissociated two distinct types of colonies which they call "R" and "S". The "R" colony, when inoculated into guinea pigs, produced tubercles, but the tuberculous lesions had a tendency to heal. The "S" colony produced progressive tuberculosis. The non-virulent "R" colony, when cultivated on media containing anti "R" serum, could revert to the "S" type, but six to ten passages on such media were necessary to accomplish this.

The vaccine is a living attenuated culture of bovine tubercle bacilli. The author summarizes Calmette's statistics which he states are sprinkled with such grave errors as to render them of no scientific value. Many of the case reports are meagre and clinical and X-ray studies have not been made of living vaccinated infants. Very few necropsies have been done on the infants who have died. "Recent studies on the biology of the tubercle bacillis suggest strongly that the microorganism is not stable and may mutate. We believe in the evolution and mutation of all microorganisms and for this reason are strongly against the adoption of any method of prophylactic immunization that uses a living mirco-organism. Infants that become infected with a virulent microorganism and develop a latent tuberculosis, may manifest clinical disease later in life. There is, at present, not an iota of scientific evidence to show that the same thing may not occur if we infect infants with BCG; there is accredited evidence to suggest that such a catastrophe might happen. If we must use a vaccine, we believe that one composed of dead microorganisms can accomplish as much as we can obtain with BCG.

A Report of the Study of 25,048 School Children for Tuberculosis, McCain, P. P.: Southern Medical Journal, (April) 1929.

The Extension Department of the North Carolina Sanatorium has conducted through a demonstration clinic, a study of 25,048 school children by the following method: Each child is given the intracutaneous test, 0.1 c. c. of a 1:100 dilution (0.1 mg.) of Koch's old tuberculin, this dosage being found sufficient in clinic work. Positive reactors have a contact and clinical history taken; they are given a general examination and have postero-anterior and oblique X-ray pictures of their chest made. Of the 431 children showing demonstrable tuberculosis, the outstanding fact in this survey is that 388 were of the tracheobronchial type.

Tracheobronchial tuberculosis is a primary infection occurring in children whose tissues are non-allergic, or not hypersensitive to the tubercle bacillus. The disease is characterized by a primary

focus formed largely by a proliferate process located at the periphery of the lung, and by an involvement of the pulmonary and tracheobronchial lymph nodes which drain the area of the primary focus. The diagnosis of this type of tuberculosis depends upon:

(1) A positive tuberculin test: Those recommended for general use are the von Pirquet skin test and the Mantoux, or intracutaneous. Koch's old tuberculin is used for both.

(2) Symptoms: Undernourishment; poor appetite, fatigue or tiring easily; a lack of energy; a tendency to nervousness; a delayed recovery from some other disease; fever.

(3) X-ray: Although this is the only method by which tracheobronchial tuberculosis may be definitely demonstrated, X-ray evidence of tracheobronchial lesions is not sufficient for a diagnosis of active disease without a positive tuberculin test and suspicious symptoms.

(4) Physical examination and laboratory examinations are of more real value in the discovery of other abnormal conditions which might explain the symptoms than in demonstrating the presence of a tuberculous lesion.

Opie and McPhedran state that tracheobronchial tuberculosis in children has grave significance and may serve as an index of manifest disease; also that it is evidence of prolonged exposure to open pulmonary tuberculosis. The great majority of cases are in the mildly active or latent stage, but if further massive infection from outside sources is prevented, and if proper treatment is instituted, practically all children having tracheobronchial tuberculosis, especially those over two years of age, will be arrested or entirely cured.

EYE, EAR, NOSE and THROAT

Edited by Jas. C. Braswell, M. D.
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Peripheral Facial Paralysis in Otology (La paralysie faciale peripherique en otologie), Sargnon, A., and Bertein, P.: Arch. internat. de laryngol., 1929, xxxv, 5.

The so-called auricular facial paralyses which are of special interest to the otologist—inflammatory, operative, and zoster paralyses—are rare and often incomplete. Frequently they can be cured by appropriate treatment. As the facial nerve is a mixed nerve, the disturbances which cause asymmetry of the face are not the only ones to be corrected. Disturbances of sensation must also be treated, particularly in intrapetrous auricular paralyses which are due to lesions of a mixed nerve at a point beyond the union of the two roots and before the points at which the sensory collaterals are given off.

The disturbances of sensation may be studied in the external ear and the anterior two-thirds of the tongue on the affected side. They are difficult to study because especially in the ear, there are supplementary sensory nerves which modify the findings of examination. Disturbances of sensation, pain particularly, are especially marked in the zoster variety of paralysis. This is caused by primary infection of the ganglion of the seventh pair of cranial nerves. Inflammatory paralyses are generally caused by compression of the nerve by the congested mucous membrane. The pressure is exerted on the second and third portions of the facial nerve because of breaks in the aqueduct of Fallopius.

Facial paralysis is caused not only by suppurative otitis media but also by congestive otitis without suppuration. However, caution must be exercised in attributing a paralysis of the facial nerve to a latent catarrh of the ear. The decision that a paralysis is of otitic origin must be based on a careful study of all the subjective and objective symptoms.

Operative paralyses also are often due to compression or contusion of the nerve. Less frequently they are caused by section. Section of the nerve is most common in gunshot injuries of the ear. Zoster paralyses quite frequently complicate infection of the geniculate ganglion. The sensory and exanthematous symptoms of the infection precede and accompany the paralysis, but may be slight and transitory. A careful search must be made for them, sometimes in other ganglia than those of the facial nerve which are affected at the same time, particularly those of the eighth pair of cranial nerves. Essential paralyses are now rare. Most cases are proved on closer examination to be formes frustes of zoster paralysis of infectious (often syphilitic) or toxic neuritis, or of discrete otomastoid catarrh. There sometimes seem due to inflammatory vascular disturbances of the bulbar nucles, the exact nature of which is as yet unknown.

The treatment of auricular facial paraylsis is particularly an otological treatment—early drainage of the infected cavities and nasopharyngeal antisepsis in otitic paralysis, and toilet and disinfection of the operative or accidental wound to eliminate all causes of compression and prevent secondary infection of the contused nerve. Electrotherapy is a useful adjuvant but should be used with prudence. Anti-syphilis treatment may be tried for diagnostic purposes. Operation should be done with caution and only in late cases. After a period of six months or more, a paralysis that is apparently final with a complete reaction of degeneration often undergoes spontaneous retrogression. In the authors' opinion, preference should be given to indirect methods which attempt to re-establish the symmetry of the face without direct action on the nerve, such as tarsorrhaphy, lifting of the commissure of the mouth, or sympathetic operations.

Unusual Cysts of the Maxilla; Cyst of Nasopalatin Duct; Cyst of the Facial Cleft Area (Fissural Cyst), Schroff, J.: Laryngoscope, 1929, xxxix, 173.

The most common cysts of the jaws are the root cyst, follicular cyst, and the multilocular cyst or adamantinoma polycysticum. These are derived from the epithelial cells of the dental anlage.

The author reports two cases of unusual types. In the first case, epithelial strands or cells rests from the nasopalatine duct in the foramen incisivum gave rise to a cyst in the median line of the maxilla which simulated a root or follicular cyst in that region.

In the second case, a cyst was formed from epithelial cell rests in the region of fusion of the upper jaw and the lateral and middle nasal processes. Such cysts are situated partly in the vestibule of the mouth, nose, and cheek. They may simulate dental cysts, but are distinguished from

the latter by the fact that they occur on bone and not in bone.

In conclusion, the author states that the usual classification of cysts of the maxilla should be amplified to include these varieties.

Detachment of the Retina, Anklesaria, M. D.: Indian Med. Gaz., 1929, lxiv, 186.

A myopic boy, aged seventeen years, suffered a large detachment of the retina in the upper and outer quadrant of the right eye. He was at once put to bed at physical and physiological rest. Both eyes were bandaged and subconjunctival injections of saline solution, beginning with a 4 percent solution, were given in Tenon's capsule over the site of the detachment. Each succeeding injection was increased in strength until a 10 percent solution was reached. In all, about ten such injections were given. Internally, 7 gr. of urotropin twice daily and a mixture containing potassium iodide, sodium salicylate, and salines were administered.

Improvement was noticed in about a fortnight. At the end of six weeks, the patient was able to see as well as before and examination of the fundus revealed no sign of detachment. Today, several years after detachment, the patient's condition still remains normal.

Headache from the Standpoint of the Rhinologist, Dintenfass, H.: Ann. Otol., Rhinol. & Laryngol., 1929, xxxviii, 77.

The author states that in the study of headaches of nasal origin, it is necessary to take into consideration not only the abnormal conditions of the nasal cavities but also the conditions of the nerve structures. Pain is due to trauma. One type of trauma is pressure resulting from the infringement of membrane on membrane, obstruction to the drainage of a sinus, or negative pressure, all the direct result of irritation and swelling of the membrane. The cause of nasal neuralgias is probably a toxin liberated by infecting micro-organisms.

Headaches due to intracranial conditions have definite characteristics. It is necessary to differentiate between Meckel's ganglion syndrome and gasserian ganglion infections and between pain due to impacted teeth and sinus pain. Care must be taken to determine whether pituitary disease is present.

The diagnosis of headache due to nasal disorders is aided by the use of cocaine, adrenalin, and ephedrin, and by transillumination, X-ray examination, and sinus puncture. Surgery should not be attempted unless there is reasonable certainty that it will be beneficial.

DERMATOLOGY, X-RAY AND RADIUM THERAPY

Edited by C. P. Bondurant, M.D.
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The Etiology and Results of Treatment in Angioneurotic Edema and Urticaria. F. R. Menagh, J. A. M. A. 90:668, (March 3) 1928.

There were 260 cases studied in this series. The author, by sensitization tests, was able to discover the cause of the condition in 80 percent of the cases. Disease of the biliary tract was the etiologic factor in about 50 percent; while in 10 percent, these two causes were combined and in the remaining 10 percent, the cause evaded search. Transduodenal drainage was employed by the author to determine the status of the biliary tract, which in his series was the only part of the gastro-intestinal system that was related etiologically to the disease. Organisms cultured from the bile were allergically tested, and vaccines were employed therapeutically when the allergic tests were positive. Nonsurgical biliary drainage was used, with some measure of success in many of the cases. The author concludes by stressing the importance of disease of the biliary tract in the etiology of urticaria and angioneurotic edema.

Streptococcal Pityriasis. H. Haxthausen, Lancet 2:370, 1927.

This author is able to cultivate streptococci on solid mediums, whereby one can form a good idea from the quantity of colonies of the number of streptococci in the original material, by his special method of cultivating streptococci from the skin, using 10 percent blood agar with a 1:100,000 solution of crystal violet, which inhibits the staphylococcus and does not affect the streptococcus. He confirms by this method the opinion of Sabouraud and Adamson and others that there are dry scaling rashes, occurring mostly on the face in children, which are due to the streptococcus and do not belong to seborrhoic eczema, as most authors thought. The lesions showing laminated streaky desquamation, have been called by Sabouraud "impetigo sicca", and by Adamson "chronic impetigo." This author proposes the name "Pityriasis streptogenes", because the disease is secondary to impetigo only in a small number of cases, while the majority—classed by most people as seborrhoic eczema—occur primarily as a pityriasis and preserve this appearance in their future course. Haxthausen found that they often start from the angles of the mouth and nostrils; that they are frequently hypersensitive to light; that they are ofen easily irritated by soap, cold cream, petrolatum and hydrous wool fat and others; that they occur not only on the face but also rarely on the scalp, and on the body with a predilection for the lateral parts. The disease occurs mostly in children from 6 to 14, but also occurs frequently in adults, more often in women than men. He suggests as a treatment the application of zinc ointment with from 1 to 2 percent coal tar.

Alternation of Diseases in Dermatology. L Brocq, Ann. de dermat. et syph., 9:1 (Jan.) 1928.

Brocq has been struck by certain cases in which cutaneous diseases alternate with visceral disorders during his many years of practice. For instance, he mentions cases in which infantile eczema disappeared while the patient had a bronchitis, and reappeared when the latter condition was cured. Also, he mentions a patient with eczema who was seen years ago and who became gravely ill with a malady diagnosed cerebral tumor. Brocq cured this patient by inducing a return of the eczema. He briefly records a number of analogous cases and analyzes them. It is impossible to say what these curious alternations signify but the knowledge that it exists may be made use of therapeutically in some instances.

Hyperthyroidism and Its Action on the Pilous System. P. Sainton, M. Maximin and H. Mamou, Bull. Soc. franc. de dermat. et syph. 35:22, 1928.

The authors state that disorders of the hair

are well known in hyperthyroidism. They present some studies of the influence of thyroid extract (in various forms) on the plumage of fowls and the fur of rabbits. The feeding and injection of thyroid preparations in hens lead to areate depigmentation and defluvium of the plumage. The same preparations lead to more diffuse decoloration and fall of hair in rabbits. The effect obtained depended upon the dose administered. Applying these results to human beings and adding thereto certain clinical experiences the authors conclude that the thyroid origin of vitiligo is a justifiable hypothesis in some cases.

Blood Picture in Purpura. N. Rosenthal, J. Lab. & Clin. Med., 13:303 (Jan.) 1928.

The author studied the blood picture in various types of blood diseases accompanied by purpura. He divides these purpuras into three main groups: (1) purpura characterized by a diminution of the blood platelets with or without alteration of their functions; (2) purpura due to some change in the function of the platelets without a diminution of their number; (3) purpura due to changes in capillaries. The blood picture in the first is diagnostic in cases of acute and chronic thrombocytopenic purpura, acute and chronic aplastic anemias and symptomatic thrombocytopenic purpura. The second group, chronic hereditary thrombasthenic purpura, is rare. The third main group is purpura due to conditions which affect the capillaries. A classification is presented as a result of a systematic study of 172 cases showing purpura as a primary or secondary symptom.

Case of Nevus Cancer of Vulva. J. Sahler, Zentralbl. f. Gynak. 51:2859 (Nov. 5) 1927.

Sahler reported two cases of cancer of the vulva—in a mother and daughter, aged 56 and 28, respectively. In the daughter, the neoplasm developed on the site of a wart excised two years previously. The tumor itself was not pigmented, but the surrounding skin was melanotically discolored. The wart had been almost black in color, but had not been examined histologically. The tumor gave the impression of a pendulous fibroma. The tumor and adjacent structures were excised and about ten weeks later the patient died with symptoms of exudative pleuritis. Metastatic nodules, of various degrees of pigmentation, were found in large numbers in the brain, the pulmonary and parietal pleurae, the heart, parietal peritoneum, great omentum, ovaries, uterus, and thoracic vertebrae. In the mother the lesion took the form of a series of nodules, varying in size from a pea to a walnut, and resembling pointed condylomas. They were broad based and nowhere showed degeneration. They were situated in the region of the perineum and on the inner side of the labia majora. They had been noticed for a year. In the last few months they had grown rapidly and caused pain in standing and sitting. The involved structures were excised into healthy tissue, and the patient is well one year latter.

BOOK REVIEWS

Medical State Board Questions and Answers. By R. Max Goepp, M.D., Professor of Clinical Medicine in the Graduate School of Medicine, University of Pennsylvania. Sixth Edition, thoroughly revised. Octavo volume of 754 pages. Philadelphia and London: W. B. Saunders Company, 1929. Cloth, $6.00 net.

History of Medicine, With Chronology, Suggestions for Study and Bibliographic Data. By Fielding H. Garrison, M.D., Lt., Colonel, Medical Corps, U. S. Army, Surgeon-General's Office, Washington, D. C. Fourth edition, revised and enlarged. Octavo of 996 pages, with 286 portraits and other illustrations. W. B. Saunders Company, Philadelphia and London, 1929. Cloth, $12.00 net.

The Surgical Clinics of North America. (Issued serially, one number every other month). Volume 9, number 4. (Mayo Clinic Number, August, 1929) 208 pages with 72 illustrations. Per Clinic year (February, 1929 to December, 1929). Paper, $12.00; Cloth, $16.00. Philadelphia and London.

Among the very interesting articles in this issue are. "Dermoid Cyst of the Pancreas" by James C. Masson and Harold D. Caylor; "Neoplasm Confined to a Diverticulum of the Bladder: Report of a Case", "Method of Metastasis of Capillary Epithelioma of the Renal Pelvis" by Verne C. Hunt; "Prolonged Intravenous Administration of a Gum Acacia-citrated Blood Solution During Severe Intracranial Operations" by Alfred W. Adson and Archibald H. McIndoe; "Complications Following Surgical Procedures on the Colon" by Fred W. Rankin and George F. Eubanks, Jr.; "Certain Features of Local Anesthesia for Tonsillectomy" by Harold I. Lillie; "An Unusually Large Stone in the Gall Bladder Obstructing the Common Duct" from the Clinic of Waltman Walters; "Osteomyelitis of Femur. Sequestrectomy Through Special Type of Incision," Anemic Ulcer of Leg Treated by Pedicle Graft" by Hugh T. Jones; "Data Concerning the Use of Various Anesthetics in the Mayo Clinic in 1928, with Special Reference to Spinal Anesthesia, Acetylene and Carbon Dioxide," John S. Lundy.

There are many other interesting contributions which space forbids mention.

Minor Surgery. By Frederick B. Christopher, M.D., Associate in Surgery at Northwestern University Medical School, Chicago. With a Foreward by Allen B. Kanavel, M.D., Professor of Surgery, Northwestern University Medical School. Octavo of 694 pages with 465 illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Price $8.00 net.

Minor surgery confronts nearly every medical man regardless of his specialty and without reference to attempts to evade it. Some of the most disastrous results follow very minor infections and injuries. Many disastrous results follow the lack of appreciation on the part of the physician of the fact that the mighty oak grows from a little acorn and that devastating disease and infections often follow very minor affairs. With these facts in mind, every physician must be constantly upon his guard to render proper treatment of the case coming to his hands at the earliest possible moment. This work by Dr. Christopher covers a wide range of matter. The volume is divided into 24 chapters which contains many of the little points in technique and treatment which are not to be found even in highly standardized text books on surgery.

The Treatment of Diabetes Mellitus with Higher carbohydrate Diets, A Text book for Physicians and Patients. By William David Sansum, M.S.,

M.D., F.A.C.P., Percival Allen Gray, Ph. D., M.D., Ruth Bowden, B.S. Leather. 309 pages, price $2.50. Harper & Brothers Publishers, New York, 1929.

The author notes that although insulin has been used as a special remedy for the treatment of diabetes, there has not been a material reduction in the death rate from the disease, since insulin has become readily available. They admit that the outlook for children is no longer necessarily fatal but that they have not developed as they should. They note that adults have shown marked increase in the development of such complications as ateriosclerosis, high blood pressure, cardio-renal disease and apoplexy and that patients have not been fully restored to a normal state of mental and physical efficiency. They believe that this unsatisfactory situation has been largely due to the use of diets which although seemingly ample, violate many apparently fundamental dietary principles. To that end the volume is a discussion of one of the most difficult problems confronting the practitioner—that is, dieting his patient according to the situation and the demand of the patient.

Tularemia. History, Pathology, Diagnosis and Treatment. By Walter M. Simpson, M.S., M.D., F.A.C.P., Director of the Diagnostic Laboratories, Miami Valley Hospital, Dayton, Ohio; formerly Senior Instructor in Pathology, University of Michigan. Cloth. 162 pages. 53 illustrations and 2 colored plates. Price $5.00. Paul B. Hoeber, Inc., Publisher, New York, 1929.

Considering that Tularemia was first detected in 1910 by McCoy of the United States Public Health Service, in that short time it has become recognized as affecting many parts of the world. A mortality of nearly 4 percent, an aggravatingly slow convalescence, with a tendency to debility and prostration, make it a formidable infection. Many case reports of this disease have been received from Oklahoma practitioners. There are two main problems to be met in its consideration: One is instruction of the public upon its dangers and modes of infection and the other, of course, being that the physician shall be constantly upon his guard. So far as is known to the writer, this is the first published volume upon the infection.

The Challenge of Chronic Diseases. By Ernest P. Boas, M.D., Attending Physician, Montefiore Hospital for Chronic Diseases and Nicholas Michelson, M.D., Adjunct Physician, Montefiore Hospital for Chronic Diseases. Cloth, 197 pages. Price, $2.50. MacMillan Company.

The author of this little monograph noted that within the past few years those interested in public relief work have noted with ever great insistency the disastrous effects of chronic diseases on the individual, his family and on society at large. Especially has been noted the great difficulty in placing chronic invalids in appropriate institutions. Noting that formerly diseases, such as leprosy and smallpox, destroyed millions, that at one time there were 19,000 leper houses throughout Christendom, but that now the types of diseases have changed, that illness is more prolonged thus taxing the means of the people if any sort of care is to be given the case.

This volume is calling the efforts of people everywhere to give proper care to the aged and to the chronically diseased, present their conclusions after a wide study of the problem.

Sterilization For Human Betterment. A summary of results of 6000 operations in California, 1909-1929, by E. S. Gosney, B.S., LL.B., and Paul Popenoe, D. SC. Cloth, 202 pages, price $2.00. The MacMillian Company, New York, 1929.

Sterilization of mental defectives has been practiced to a limited extent for more than twenty years but the work has been confined to a few states, so far as the writer recalls: Indiana, California, West Virginia, Virginia, Wisconsin, New York and several other states. The first published report issued by the Indiana authorities seemed to indicate that following the practice of sterilization of mental defectives, their symptoms, as a rule, either decreased, in some cases altogether disappeared, and apparent cures were reported. This little volume is based upon study of California cases numbering several thousand. It is noted that the United States Supreme Court has recently sustained the legality of eugenic sterilization. Justice Holmes, in handing down the decision, said, "Three generations of imbeciles are enough." Obviously, it will be many years before sterilization of defectives will become generally practiced. Notwithstanding the unwillingness of State legislatures to authorize this principle, it is the duty of the medical profession and scientists to constantly point to the mounting number of mental defectives, of the increasing thousands housed in our asylums, in order that proper laws may be enacted. Of course, every safeguard should be thrown around the patient in order to give him or her benefit of the treatment if it is indicated or to protect the patient if not indicated.

The Outline of Preventive Medicine. For Medical Practitioners and Students, prepared under the auspices of the Committee on Public Health Relations, New York Academy of Medicine. Twenty-one contributors. Editoral Committee, Frederic E. Sondern, Chas. Gordon Heyd, and E. H. L. Corwin. Limp leather, 398 pages. Price $5.00. Paul B. Hoeber, Inc., Publishers, New York, 1929.

This volume is divided into twenty-one chapters covering many subjects among which may be noted: Periodic Health Examination, General Medicine, Allergy, Aspect of Preventive Medicine, Orthopedics, Obstetrics, Gynecology, Pediatrics, Nervous and Mental Disease, Eye, Ear, Nose and Throat, Dermatology, Urology and Veneral Disease, Industrial and Occupational Disease and Self-Medication, Illegal Practice and Narcotic Drug Addiction. These chapters are each contributed by authorities along the specialties indicated. Not only to the health officer but to the general practitioner should it prove very interesting.

Interns Handbook. A Guide to Rational Drug Therapy, Clinical Procedures and Diets, by members of the Faculty of the College of Medicine, Syracuse University, under the direction of M. S. Dooley, A.B., M.D., Chairman Publication Committee. Cloth, 254 pages. Price $3.00.

While this little volume is denominated an Intern's Handbook, it should be very useful on the desk of every physician, in the hands of all students, nurses and others requiring a ready reference to diagnosis, treatment and medication in general.

Spinal Anesthesia (Subarachnoid Radicular Conduction Block) Principles and Technique, by Charles M. Evans, M.D., Clinical Assistant, N. Y.

Post Graduate Medical School and Hospital, Lying-in Hospital of the City of New York, Assistant Surgeon N. J. Orthopedic Medical Hospital, Orange. Introduction by W. Wayne Babcock, M.D., F.A.C.S. Foreword by Charles Gordon Heyd, M.D., F.A. C.S. Forty-one illustrations, three color and one front color plate. Cloth, 203 pages. Paul B. Hoeber, Publisher, 1929. Price, $5.50.

Spinal Anesthesia is being enthusiastically received and adopted by many surgeons throughout the world. Some of the busiest surgeons have already reported their experience in thousands of cases. Properly administered, to selected cases, it will probably be in the future the anesthetic of choice. In these cases its results are spectacular and more than gratifying to the surgeon and everyone concerned. This work enters into the subject in all its phases.

Tuberculosis and How to Combat it—A Book for the Patient, by Francis M. Pottenger, A.M., L.L.D., F.A.C.P. Second edition, 275 pages. C. V. Mosby Company, St. Louis, 1928. Cloth, $2.00.

Doctor Pottenger is one of the great American authorities on the care of tuberculosis. For perhaps a third of a century he has maintained a large and successful institution for the care and treatment of the tuberculous. From this commanding position he speaks with authority. This volume of course is a message to the patient. Tuberculosis requires more intelligent cooperation from the patient than any other disease if control or cure is to be effected.

ASCARIS LUMBRICOIDES FOUND IN CAVITY OF HUMAN HEART

Carl Boettiger and Jacob Werne, New York (Journal A. M. A., July 6, 1929), relate the case of a woman who had recently been complaining of pain in the left lower portion of the chest. The patient was said to have become acutely ill the day before admission. She developed chills, fever, and the pain in the chest. There was no hemoptysis. Physical examination revealed, as significant observations, crepitant rales over both lungs, distant heart sounds of regular rhythm and elephantiasis of the right leg with ulcerations over the ankle. The temperature on admission was 100.4 F.; the pulse rate was 105, and respirations were 38. The chemical analysis of the blood was not remarkable. There were 4,100,000 red blood cells and 11,000 white blood cells, of which 67 percent were polymorphonuclears and 33 percent lymphocytes. No eosinophils were found. The urine contained a trace of albumin. Death occurred three days after admission. The clinical diagnoses were pulmonary thrombosis, chronic bronchopneumonia and elephantiasis. The autopsy revealed cardiac hypertrophy, general arteriosclerosis, pulmonary thrombosis, chronic interstitial pneumonia, passive congestion of the lungs, liver and spleen, chronic interstitial pancreatitis, elephantiasis of the right leg with superficial ulcerations and ascariasis. The immediate cause of death was pulmonary thrombosis. The interesting feature of this case was the finding of two yellowish white worms with annular markings, measuring each about 10 cm. by 5mm. in the cavity of the right ventricle. The first was found in the chicken fat clot in the cavity of the right ventricle, and the other was found to extend partly into the pulmonary artery. In view of the clinical diagnosis of pulmonary thrombosis, incision had been made into the right ventricle and pulmonary artery before the removal of the viscera en masse. No adult forms of the parasite were found in the intestine, which is the normal habitat of the mature worm. The worms were identified as forms of Ascaris lumbricoides.

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